WEFTEC '96

Water Environment Federation
Preserving & Enhancing the Global Water Environment

EPP
Environmental Pollution Prevention Project

PN-ACC-838

POLLUTION PREVENTION

&

PUBLIC EDUCATION TRAINING

Water Environment Federation

LXIX Annual Conference & Exposition

Dallas Convention Center, Dallas, Texas U S A
Conference Dates October 5-9, 1996
Exposition Dates October 7-9, 1996

LEADER'S GUIDE FOR CONDUCTING AN INTERACTIVE POLLUTION PREVENTION ORIENTATION WORKSHOP

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General Information

Purpose

The purpose of a Pollution Prevention Orientation Workshop is to help people understand the concept and philosophy of pollution prevention and to adopt a prevention approach to environmental decision making Therefore, the fundamental goal of this type of training is simply to help people begin to *think pollution prevention*

The attached curriculum outlines **one example** of a framework for a course to introduce this concept using the **participatory** methodology as taught by the EPA Institute Although there is a lot to learn and know about pollution prevention, **Keep It Simple** when designing a workshop Try to introduce no more than four or five key topics that you feel comfortable in teaching

The goal of a pollution prevention orientation training program is to introduce the concept and to help people begin to think pollution prevention Conducting creative and interesting workshops is one way to accomplish this goal

Duration and timing

Because the needs of the audience may vary enormously, enough material has been provided to allow the instructor to select and tailor the information to the level of the group A three hour session is sufficient A room large enough to hold the participants in a U format with tables and additional break-out space is the best setting

Audience

Small workshops of 15-25 are better for discussion and discovery learning techniques It is always important to know the audience and their level of knowledge Gather as much information as possible about the audience prior to the workshop and determine their level of knowledge in introductions and through discussion during the workshop

Materials

There are a variety of pollution prevention materials that can be used for a creative and interesting orientation workshop Most people will not read a lot after leaving the workshop so it is best (in the interest of pollution prevention) to show what is available and how to obtain materials Once the participants are interested in the pollution prevention topic, they will search out additional information that may be of particular interest to them

Be prepared and make sure you have the workshop essentials

* Overhead projector with extra bulbs
* 35 mm projector with extra bulbs
* Name plates
* Masking tape
*Flip charts with paper

Prepare essential flipcharts prior to the session

Pollution Prevention Orientation Workshop

Instructor's Guide

1 Instructor's greeting and introduction.

Instructor Notes

Welcome people to the course and make them feel comfortable as they come in to the room Introduce yourself and set a tone of openness so that others will follow in their introductions

2 Purpose of Workshop

Have a prepared flipchart with course objectives

The purpose of this course is
a To introduce pollution prevention concepts, philosophy and programs,
b To explore problems and potential solutions/incentives for implementing pollution prevention activities, and
c To provide tools and resources to implement pollution prevention in programs and activities where appropriate,

Have a prepared flipchart with orientation agenda

The following issues will be discussed and discovered in this interactive orientation workshop

* What is Pollution Prevention?
* Why is it important?
* What are some of the incentives and barriers to implementing prevention?
* How do we implement Pollution Prevention Programs?
* Resources and information

Ask for additions to, or clarifications of the agenda
Confirm the group's expectations of what will happen in the workshop

3 Participants' introductions

Conduct an ice breaker For example, have small groups describe something that they do which contributes to the generation of pollution, and name one or two things that they can do to prevent pollution

Examples *I drive to work alone I could
car pool, metro, etc
*I could change purchasing habits I could
buy environmentally friendly products with less
packaging

4 What is pollution prevention? (clean production?)

Instructor Notes

Training objectives

a To ensure participants understand what pollution prevention is and is not and,

b To ensure that participants understand the difference between **prevention activities** and **pollution control and management activities** End this session with a discussion of the benefits of pollution prevention as compared to managing or regulating pollution after it is generated or released into the environment

Make sure that you, as the instructor, have a clear grasp of the concept and definition as used by EPA and/or your own agency Use definitions from the Pollution Prevention Act and Agency memos, etc

Training activity to help participants understand and identify with the concept of pollution prevention

Flip Chart
(define each word separately in own words)

Ask participants to define prevention Chart responses
Ask "What other things are associated with prevention? Health, fire, crime, etc (concept is important)
Show definition of prevention,

"activity that keeps something from happening anticipation of outcome" Source Webster's Dictionary

Ask participants to contribute words that might be used to define pollution i e , waste, smog, contamination, degradation, wastewater, etc Show overhead with definition of pollution as defined by EPA's Science Advisory Board

"Pollution is the undesirable change in the physical, chemical or biological characteristics of air, water or land that may or will harmfully effect human life or that of other desirable species, our industrial processes, living conditions or cultural assets, or that may or will waste or deteriorate raw material resources "

Ask participants to define pollution prevention in plain English (what it means to them)

*Finally, show EPA's formal definition of pollution prevention **

Instructor Notes

"Pollution Prevention is considered by EPA to mean source reduction Source reduction, as defined in the Pollution Prevention Act of 1990 states that "source reduction is any practice that reduces the amount of any hazardous substance, pollutant or contaminant entering a waste stream or released into the environment prior to recycling, treatment or disposal " Pollution Prevention applies to all forms of pollutants, air pollution, water pollution as well as hazardous and non-hazardous solid wastes and applies to all sectors of society including industry, government, agriculture, energy, transportation and consumers Source EPA Pollution Prevention Policy Statement, 1990 Pollution Prevention Act 1990 "

Capture words or phrases from class contributions and circle those appropriate words that can be used in the EPA definition

Make sure participants understand the environmental protection hierarchy that emphasizes prevention as first choice, but also considers recycling, treatment, incineration and disposal of wastes and pollutants as important components in the overall strategy for environmental protection Prevention simply will reduce the burden of costly treatment, recycling and disposal options in many cases This will be illustrated in the **EPA Pollution Prevention slide show**

*Show **EPA's or your own Pollution Prevention slides** with prepared script of examples of pollution prevention techniques, technologies and programs Take questions as they arise*

Question audience *What are some of the reasons we are now turning our attention to pollution prevention?*

5 Barriers and Incentives Discovery Exercise

Training Objective To help participants think about the challenges of implementing pollution prevention options and to find some creative solutions to these problems Students will discover the barriers to implementing pollution prevention in industry, as consumers and as EPA employees Students then try to find solutions or incentives to the barriers they've identified

Identify potential programs, solutions and incentives that will help to resolve/overcome these problems Report out on solutions Allow discussion Ask participants for additional ideas on how each group could implement pollution prevention programs and what activities EPA could do to promote Pollution Prevention

Instructor Notes

Examples

Programs/Incentives for industry

Improve public relations
Save money in long run
Protect worker and community health
Give tax incentives to upgrade
Recognition programs
Technical assistance and info dissemination

Incentives for consumers

Provide education
Make it easy
Make it inexpensive, etc

Incentives for EPA employees

Employee award program
Get top and middle management support
Provide training on what to do, etc

6 How to do Pollution Prevention

(Hands-on exercise demonstrating that you don't need to be a rocket scientist to implement pollution prevention)

Depending on the audience, you may want to discuss specific examples of pollution prevention accomplishments and conduct a descriptive short lecture on how to establish a pollution prevention program *

Discuss the essential components as identified in EPA's Facility Pollution Prevention Guide EPA# 600-R-92-088

i e top management commitment, goals, periodic assessments, accounting practices, technology transfer and evaluation These elements are applicable to all sectors and programs

Discovery Training Activity

Instructor Notes

Divide class into groups of 3 or 4 to work on problems and present to class their solutions Examples of exercises and problems are included in the guidebook, CREATIVE APPROACHES TO POLLUTION PREVENTION TRAINING (Examples include the Play Dough Fun Factory or Blitzfn exercises) The purpose of the case studies is to make the participants feel that they can implement pollution prevention and that they have an important role to play implementing the program

Report out from each group

7. Pollution Prevention Resources

End workshop by providing the participants with resources so that they may be able to find specific pollution prevention information pertaining to them

Resources, where to go for more information

Start by discussing the Pollution Prevention Clearinghouse, ORD and OPTS Studies on Pollution Prevention, state activities and resources

The Pollution Prevention Information Clearinghouse, developed by EPA's Office of Research and Development and the Office of Pollution Prevention and Toxics, is a multi-media clearinghouse of technical policy legislative and financial information dedicated to promoting pollution prevention through efficient information transfer The Clearinghouse is made up of three elements A hard copy repository in EPA Libraries, a computerized conduit to data bases and document ordering, and a hotline (Hand out brochures and fact sheets are also available)

Refer to the Pollution Prevention Resources and Training Opportunities Manual which list state resources, education and training opportunities, case studies, videos and calendar of events

Discuss further needs

8 Closing and Evaluation

Instructor Notes

Close workshop by asking each participant to identify something that they learned from the workshop that they will be able to use in their own jobs or personal lives to further promote the concept of prevention Open discussion, questions, evaluation of class

(*) Asterisk denotes that there are informational fact sheet summaries on this topic to use as handouts and for your own information Available from the EPA and the EP3 Clearinghouse at (703) 351-4004

Incentives and Barriers Exercise

Factory Toxico

The chemical manufacuter, Toxico, has a pretty good environmental record and they are usually in compliance with their discharge levels for both water and the air However, to meet their permit levels they have to use a pretreatment system and due to some of the chemicals used in their processing they have had to undergo expensive "hazmat" precaussions for their solid waste disposal

Due to recent growth in the area the factory, which was originally located 10 miles outside of town, now as neighbors close by About 1/3 of theses households have someone in the family employed by the plant As the community around the plant has developed, other services such as stores, gas stations, dry cleaners, etc have also moved in

A neighborhood group has formed to question the environemntal and health safety issues of the plant They have called the State DNR and the U S EPA to review the current discharge levels for the plant and make a recommendation on their safety If the findings indicate a safety threat they have asked the city government to review the city ordinances to prohibit any expansion of the plant and prevent any new companies from building in the area

The factory has recently heard about pollution prevention as a possible option to be explored

The Oily Washers Game

An

Interactive Exercise

for

Waste Reduction Training

by
WRITAR
Waste Reduction Institute
for Training and Applications Research

completed
March, 1991
by Thad Schifsky

Outline for Oily Washers Exercise

√I Introduction

√II Theory or Principles
a. Principles of Operation
b Purpose
c Objectives

√III Instructions Section

√IV Equipment and Materials Needed

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Introduction

Public policy staff in regulatory and/or policy making positions are in an important position They can influence waste generators in industry to adopt methods of environmental protection This training manual outlines an exercise which can heighten public policy staffs' awareness of the challenges and problems of exchanging aqueous cleaners for solvents At the same time, this exercise will provide participants with a sense of what it's like to work in an industrial setting and to use group problem solving techniques

The instructions in this manual show the exercise facilitator in a step-by-step fashion how to take a group through the Oily Washers exercise The training manual also includes a principles of operation section explaining how we developed this exercise, what our basic ideas are behind the exercise, and how we expect participants will benefit from the exercise We have also included a list of equipment and materials needed for this exercise

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Principles of Operation

Nearly all training to date in waste reduction has been based on lectures and case studies, all of which are more properly termed education. Training to date has been given a lesser priority because the information to conduct training has not been available

Our early training attempts at verbal role plays and small group discussions, while useful, did not prove as effective as an exercise like the Oily Washers training exercise It's a fun exercise and we believe that people who have fun while learning are more likely to retain what they've learned. We are employing the principle that hands-on training allows trainees to become participants rather than observers People would rather have the actual tools to work with than reflecting on concepts

We determined that the regulatory audience who will participate in this exercise may not be familiar with what it is like to function in an industrial setting Because of this, we wanted to construct an exercise to give these participants a good sense of how a business operates day-to-day By participating in this exercise, they will also acquire a sense of the difficulties encountered while substituting aqueous cleaners for organic solvents With their enhanced sense of an industrial setting and the challenges and problems of exchanging aqueous cleaners for solvents, we believe these participants will have a clearer idea of how to promote effective solvent substitution efforts in industry

Purpose

To motivate audiences to promote, persuade and encourage substitution of solvents in industry by taking them through a mock industrial process In addition, it is intended to help participants become aware of why solvents are used, the process and difficulties of solvent substitution, and the cause of industry's resistance to these substitution efforts This mock process is also intended to heighten the participants' awareness of the important role communication plays in industry's solvent reduction efforts

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Objectives

We have several objectives in mind for this exercise One is to help participants not familiar with industrial processes to understand these processes Another is to help participants understand the challenges and frustrations of substituting aqueous cleaners for organic solvents in an industrial setting A related objective is to show the participants that their previous understanding of the mechanics of solvent replacement may have little in common with the reality of replacement efforts in an industrial setting Our final objective is to help participants become aware of the importance of communication in efforts to exchange aqueous cleaners for solvents, and to become aware of some of the many factors that make it difficult to actually implement substitution, such as customer demands and timetables

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Instructions

1 Assemble participants into teams of five and seat each team around a tray

2 Explain to the teams that they will be given oily steel washers along with three different cleaners Explain that they will be evaluated on how fast they clean the oil from the washers, and afterwards, how clean and dry they are in comparison to your model of a clean, dry washer

3 Tell the teams that they too are going to evaluate the three cleaners, but during the exercise Tell them they will do this by deciding on criteria to evaluate the cleaners and that they will be required to document how they evaluate each cleaner by making notes on each one

4 Tell the teams that they also have to decide if their washers are clean by deciding on criteria to help determine if they are clean Tell them they must document these criteria and their evaluation of the washers cleanliness

5 Explain to the teams that in the past your industry has used organic solvents and you've been able to clean 50 washers at a time in one minute and they came out dry Explain that they are expected to meet this standard of 50 washers per minute

6 Hand out the the preprepared trays containing the cleaning equipment to each team, and tell them they will have 20 minutes to complete the exercise

7 Tell the teams to begin and note the time

8 At the 20 minute mark, tell the teams to stop

9 Display the preprepared flip chart which shows the participants the cost of each cleaner Tell the teams to note the cost of the cleaners and to debate the merits of each cleaner among themselves for another 15 minutes Tell them they must decide which is the best cleaner

10 At the end of the 15 minute period, visit each team and ask what cleaner they've chosen and why While doing this, point out the rust that will have developed on the washers as proof that the washers are still wet, in spite of the team's efforts to dry them

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11 Next, ask all the teams how they know the washers are clean To answer this question, ask them to refer back to their criteria and evaluation of how well they cleaned the washers

12 Tell the teams you have a test to determine if the washers are/are not clean Test each team's washers by dunking them in water and examining them for water beading. If water beads form on the washer, show the washer to the team and explain that the beading is caused by oil still present on the washer

13 Begin discussion by

a) asking the teams how they would solve the washer drying problem and asking them for their estimate of the costs of correcting this problem

b) asking the teams how they would set a quality standard which will result in oil-free washers

End of Exercise

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List of Equipment & Materials

Items #1 through #6 are readied and placed on each of the four trays in advance of the exercise Flip chart is readied in advance also (see #8)

1 20 zinc coated steel washers

– strip washers of zinc coating and immediately coat them with oil to prevent rust. Place washers in plastic baggies for transport.

2 4 six inch pieces of stainless steel wire

– should be stout enough to hold one washer at a time

3 One latex glove

– one for each team to keep operator's hand clean while cleaning and racking

4 Roll of paper towels

– provide at least two towels for each team

5 4 eight ounce paper cups

6 Cleaning Solutions

a) Ivory liquid soap mixed with water

– fill cup 3/4 full with water and add 1 tablespoon soap

b) Dawn for dishes mixed with water

– same as above

c) Trisodium Phosphate (TSP)

– can be found in powdered form at a hardware store

– fill cup 3/4 full with water, only add 2 tablespoons powdered TSP

7 Rinsing Solution

– fill cup 3/4 full with water, add 4 tablespoons vinegar

8 Four trays

– food service trays work well, otherwise any tray with a lip

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9 Flip Chart or Blackboard.

– write cost of each cleaner on flip chart in advance of exercise Use table format below

Cleaner	Cost per T	Cost per Run	Life of Solution
#1			
#2			
#3			

10 Felt-tip markers if flip chart, chalk and erasers if blackboard.

11 Paper and pencils for each group

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The Green Square Game

An

Interactive Exercise

for

Waste Reduction Training

by
WRITAR
Waste Reduction Institute
for Training and Applications Research

completed
February, 1991
by Thad Schifsky

Outline for Green Square Exercise

√I Introduction

√II Theory or Principles
- a Principles of Operation
- b Purpose
- c Objectives

√III Instructions Section

√IV Equipment and Materials Needed

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Introduction

Public Policy staff in regulatory and/or policy-making positions are in an important position They can influence waste generators in industry to adopt methods of environmental protection This training manual outlines an exercise which can heighten public policy staffs' awareness of how waste is produced and how it can be reduced. At the same time, this exercise will provide participants with a sense of what it's like to work in an industrial setting and to use group problem solving techniques

The instructions in this manual show the exercise facilitator in a step-by-step fashion how to take a group through the Green Square exercise The training manual also includes a principles of operation section explaining how we developed this exercise, what our basic ideas are behind the exercise, and how we expect participants will benefit from the exercise We have also included a list of equipment and materials needed for this exercise

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Principles of Operation

Nearly all training to date in waste minimization has been based on lectures and case studies, all of which are more properly termed education Training to date has been given a lesser priority because the information to conduct training has not been available

Our early training attempts at verbal role plays and small group discussions, while useful, were not as effective as we'd hoped We found that, aside from role plays and discussions, an exercise approach such as the Green Square Game is a more effective training tool It's a fun exercise and we believe that people who have fun while learning are more likely to retain what they've learned We are employing the principle that hands-on training allows trainees to become participants rather than observers People would rather have the actual tools to work with rather than reflecting on concepts

We determined that the regulatory audience who will participate in this exercise may not be familiar with what it is like to function in an industrial setting Because of this, we wanted to construct an exercise to give these participants a good sense of how a business operates day-to-day By participating in this exercise, they will also acquire a sense of how waste is generated and subsequently learn to recognize processes that create waste In addition, participants will understand how hazardous waste, even when properly disposed of, can re-enter the environment, and that landfills and incinerators don't reduce hazardous waste's threat to the environment. Finally, with their enhanced sense of an industrial setting and knowledge of how waste is generated, we believe these participants will be more effective in promoting waste minimization in their respective positions

Purpose

To motivate audiences to promote, persuade and encourage waste minimization by taking them through a mock industrial process This mock process is intended to heighten the participants' awareness of the importance of communication in waste minimization efforts In addition, it is

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intended to help participants become more aware of sources of waste, options for waste minimization, and resistance to change

Objectives

We have several objectives in mind for this exercise One is to help participants not familiar with industrial processes to understand these processes Another is to help participants understand the challenges and frustrations of reducing waste in an industrial setting A related objective is to show the participants that by taking part in this exercise, they may find their previous understanding of waste reduction and its implementation has little in common with the reality of waste reduction in an industrial setting Our final objective is to help participants become aware of the importance of communication in waste reduction efforts, and to become aware of some of the many factors that make it difficult to actually implement waste minimization, such as labor relations, customer demands, and competition

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Instructions Organization

- Form teams
- Explain exercise
- Hand out materials
- Inform players of your role
- Place order
- Check on teams progress
- Begin discussion
  - –ask the students to discuss techniques they used to minimize waste generation
  - –solicit ideas on how to dispose of waste generated by each company
  - –If incineration is recommended, solicit ideas on how to dispose of the toxic ash and air pollution
  - –If placing ash in a landfill is recommended, ask how the rainwater might become contaminated and enter drinking water supplies
  - –solicit ideas on how to clean up the contaminated water and what should be done with the toxics we remove from the water
  - –ask what would happen if these toxics were incinerated.
  - –point out that, while the volume of waste was reduced, the hazardous portion was not and is simply being moved around without being completely eliminated.
  - –solicit ways to overcome this problem, i e how should we deal with hazardous waste generated in in industrial processes? Is source reduction the answer?
  - –discuss the relative merits of buying and using products from industries that cannot entirely remove hazardous waste Participants may be interested in researching industries in their own communities that generate air, water, and land pollution and where that waste is disposed.
- Clean up

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Instructions

1 Assemble participants into teams of five and seat them around the "production floor "

2 Ask the groups to invent their own company name, and write the team names on a flip chart or blackboard

3 Explain to the teams that they will mix blue and yellow tempera paints to color a square-shaped piece of paper green for an unspecified "customer " Tell teams that their "product" should match the model representing the customer's desired color

4 Explain that any surface or object which becomes contaminated with paint, whether blue, green or yellow, becomes "hazardous "This includes all materials, hands, clothing, table surface, and the floor Explain that teams will be evaluated on their ability to paint the square the correct color while generating the least amount of this "hazardous waste "

5 Hand out painting materials to each team Caution teams not to start until you tell them, and tell them they will have 20 minutes to complete the exercise You may wish to pause with your instructions until the teams are ready

6 Tell the teams to begin the exercise and note the time

7 At the 20 minute mark, tell the teams to stop

8 Begin inspection of each team's product and evaluate their efforts with the following criteria.

   a color match with the customer model

   b production floor cleanliness

   c number of contaminated brushes

   d number of contaminated cups

   e number of contaminated spoons

   f cleanliness of back of green square

   g left over green paint.

   h contaminated hands, clothing, etc

9 Begin discussion

   a ask the students to discuss techniques they used to minimize waste generation.

   b solicit ideas on how to dispose of waste generated by each company

   c If incineration is recommended, solicit ideas on how to dispose of the toxic ash and air pollution

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d If placing ash in a landfill is recommended, ask how the rainwater might become contaminated and enter drinking water supplies

e solicit ideas on how to clean up the contaminated water and what should be done with the toxics we remove from the water

f ask what would happen if these toxics were incinerated.

g point out that, while the volume of waste was reduced, the hazardous portion was not and is simply being moved around without being completely eliminated.

h solicit ways to overcome this problem, i e how should we deal with hazardous waste generated in in industrial processes? Is source reduction the answer?

i discuss the relative merits of buying and using products from industries that cannot entirely remove hazardous waste Participants may be interested in researching industries in their own communities that generate air, water, and land pollution and where that waste is disposed.

10 Instruct teams to clean up

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List of Equipment & Materials

1 Blue tempera paint
Yellow tempera paint
–use 1 teaspoon powder per team as a guideline

3 4 8oz paper cups

4 2 water color brushes

5 2 spoons

6 24" X 36" sheets of white paper for production "floor"
–can be removed from flip chart

7 1 8x12 piece of heavy grade paper
–cut into 4 squares

8 1 half-full cup of water

9 flip chart or blackboard

10 felt-tip markers for flip chart

11 chalk and erasers for blackboard

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The Fun Factory

An

Interactive Exercise

for

Waste Reduction Training

by
WRITAR
Waste Reduction Institute
for Training and Applications Research, Inc

completed
February, 1991
by Thad Schifsky

Introduction

Public Policy staff in regulatory and/or policy-making positions are in an important position They can influence waste generators in industry to adopt methods of environmental protection. This training manual outlines an exercise which can heighten public policy staffs' awareness of how waste is produced and how it can be reduced. At the same time, this exercise will provide participants with a sense of what it's like to work in an industrial setting and to use group problem solving techniques

The instructions in this manual show the exercise facilitator in a step-by-step fashion how to take a group through the Play-Doh Fun Factory exercise The training manual also includes a principles of operation section explaining how we developed this exercise, what our basic ideas are behind the exercise, and how we expect participants will benefit from the exercise We have also included a section defining participant roles, as well as a list of equipment and materials needed.

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Principles of Operation

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Our early training attempts at verbal role plays and small group discussions, while useful, did not prove as powerful, successful, and flexible as the Fun Factory training exercise It's a fun exercise and we believe that people who have fun while learning are more likely to retain what they've learned. We are employing the principle that hands-on training allows trainees to become participants rather than observers People would rather have the actual tools to work with rather than reflecting on concepts

We determined that the regulatory audience who will participate in this exercise may not be familiar with what it is like to function in an industrial setting Because of this, we wanted to construct an exercise to give these participants a good sense of how a business operates day-to-day By participating in this exercise, they will also acquire a sense of how waste is generated and subsequently learn to recognize processes that create waste Finally, with their enhanced sense of an industrial setting and knowledge of how waste is generated, we believe these participants will be more effective in promoting waste minimization in their respective positions

Purpose

To motivate audiences to promote, persuade and encourage waste minimization by taking them through a mock industrial process This mock process is intended to heighten the participants' awareness of the importance of communication in waste minimization efforts In addition, it is intended to help participants become more aware of sources of waste, options for waste minimization, and resistance to change

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Objectives

We have several objectives in mind for this exercise One is to help participants not familiar with industrial processes to understand these processes Another is to help participants understand the challenges and frustrations of reducing waste in an industrial setting A related objective is to show the participants that by taking part in this exercise, they may find their previous understanding of waste reduction and its implementation has little in common with the reality of waste reduction in an industrial setting Our final objective is to help participants become aware of the importance of communication in waste reduction efforts, and to become aware of some of the many factors that make it difficult to actually implement waste minimization, such as labor relations, customer demands, and competition

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Participant Roles

An ideal size for the group of participants is 20 people

- Facilitator Role.

The facilitator would be ideally filled by a person who is comfortable with taking charge and leading a group of people through an exercise Since the successful completion of this exercise depends on a high level of interaction among the participants, the facilitator should also be adept at promoting this interaction by his/her own example

- Customer Role.

The facilitator takes on the role of the Customer after the Play-Doh machines are handed out. The Customer's role is to place orders, create pressure, demand quality, and generally harass the teams with the goal of creating an atmosphere of good natured chaos The Customer's job begins with circulating to each team and placing the first order with each "Big Boss " After the teams have begun working, the Customer begins requesting sample parts from each team and inspects their quality While inspecting each team's product, the Customer mentions how well their competition is performing The Customer continues to inspect each team's product, mentions the competition's performance, and how important the job is to their company throughout the exercise

Write the following titles and role descriptions on index cards

- Big Boss

Keep your back to the process at all times Everything is always late You only care about the bottom line Your links to your team are through Quality Control and the Production Manager, communicate to your team through them

- Production Manager

The techs are lazy, QC is crazy, and the boss is on your case You can look at the process once every five minutes Get those parts out now!

- Quality Control (QC)

Everyone wants to slip something by you Watch those techs carefully You're the only guardian of the company's good name If it's no good by you, it's no good.

• Technician (Tech) (Two Techs per Team)

You are underpaid and overworked. Only you understand the process If only management could get organized! Don't let them push you around.

• RCRA Inspector (Optional)

You know that every facility has something to hide and your job is to find it. The paper work is never filled out right, their records are never where they're supposed to be, and all the labels are upside down

WRITAR, 1313 5th ST SE, Ste 325, Minneapolis MN 55414-4502
Ph 612-379-5995 FAX 612-379-5996

Instructions

1 Assemble attendees into teams of five and seat them around the "production floor " (see Materials Needed, page 9, line 4)

2 Assign a city or country name to each team for identification, and write the team names on a flip chart or chalkboard.

3 Explain to the teams that they are in competition with each other to produce a critical"part" for the military, and they will produce this "part" from play-doh using the Fun Factory machine Tell them that since this is work for a defense contract, the parts have to be made to exacting standards

4 Explain that Red play-doh is a toxic metal, Yellow play-doh is toxic because of volatile organic air emissions, and Blue and White play-doh is non-toxic Explain that if toxic play-doh is mixed with non-toxic, the part is contaminated and considered waste Write these specifications on the flip chart for the players' reference

5 Explain that anything that is contaminated or isn't finished product is considered waste, therefore it can't be recycled and should be placed in a waste pile

6 Assign roles by handing out the index cards (see Materials Needed, p 9, line 5, and Participant Roles, p 4) Roles can be assigned arbitrarily Any extra people can be regulators

7 Hand out Fun Factory machines and Play-Doh Caution teams not to start until you tell them Tell teams they will have 90 minutes to complete the exercise, after which there will be a 30 minute assessment and then a second 90 minute exercise A half-hour break can be inserted in the exercise

8 Tell the teams that you are the customer and that you will order only through the Big Boss

9 Tell the teams to open up the machines This may distract them for a short time, so pause with your instructions

10 Give the teams the first order to make 10 blue stars with a thickness comparable to the lid of the Play-Doh can Explain that the parts are to be extruded with the machine, not molded by hand. Tell teams that finished parts should be smooth on both sides, and contain no mixed colors Write the order and specifications on the flip chart

11 Check on each team's progress Begin quality control at this time, checking for parts that are not smooth or are shaped badly

12 When any team is near completion of the first order, begin placing the second order of 10 white stars with the same thickness of the blue stars Be careful not to tip off nearby teams about the content of this and future orders

13 Place the third (5 blue rectangles) and fourth (3 red ropes) orders with all teams when any one team is close to completion of the second order Tell them the rectangles should be made the smallest possible, with the same thickness as the stars The ropes should be made as long as an index card is wide

14 After you are certain all of the teams have begun the third order of 5 blue rectangles, announce to all of the teams that the customer has changed their third order to 3 red ropes, and the fourth order to 5 blue rectangles This will (and is intended) to cause confusion and dismay among the teams as they will have to change their extrusion form, clean their machines, and guard against color contamination.

15 Continue checking for parts that are not smooth or are shaped badly, and begin inspecting parts for streaks of color resulting from sloppy color changes

16 Remind the teams that they are in competition with each other Since teams will work at different speeds, tell them you might have to pull the job from one team and give it to another

17 At 90 minutes, tell the teams to stop, collect and segregate their parts and waste, and clean their machines Determine who finished first. Inspect each team's finished parts for conformity to the standards of smoothness and shape and inspect each teams waste piles and note the amount of waste generated. You may wish to weigh each teams waste with a small scale to determine which team generated the most waste

18 Ask the teams to appoint a group spokesman among themselves, and begin the discussion Write responses on flip chart Ask them what they think is wrong with the exercise as an industrial process (process analysis) Next, ask what they would change and why (options generation) Then ask each team what is the first thing they would modify and why (implementation) Last, point out the insights they have gained from the exercise Examples of insights include

a how this exercise can help participants not familiar with the process understand the complexities of waste reduction in an industrial setting This includes the added complexity and additional waste order changes can cause, especially with small orders which require the same "retooling" and cleaning as a large order

b all waste reduction ideas derived from this exercise came from the participants, which is often the case, or should be, in real industrial facilities

c a sense of how waste is actually generated, which can help participants to at least promote waste reduction ideas

19 begin the exercise again and have everybody implement what they've learned.

20 clean up

List of Equipment and Materials Needed

1 Play-Doh Fun Factories

2 supplemental supply of Play-Doh

3 flip chart or black board

4 24" x 36" sheets of white paper (often removed from a flip chart) for "production floor"

5 packet of 3" x 5" index cards

6 felt-tip markers for flip chart

7 chalk and erasers for blackboard

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Ph 612-379-5995 FAX 612-379-5996

Public Education Handbook

Written by and for Member Associations

Produced by the
Public Education Committee
of the
Water Environment Federation

September 1995

The Public Education Handbook
2nd edition 1995, first published 1993

Water Environment Federation

Production management by Jenny Galownia
Compilation, design, and layout by Lorraine Loken
Edited by Nancy Blatt and Lorraine Loken

The Water Environment Federation is an international not-for-profit educational and technical organizat]ion of 41,000 water quality experts WEF members include environmental, civil, and chemical engineers, biologists, chemists, government officials, treatment plant managers and operators, laboratory technicians, college professors, researchers, students, and equipment manufacturers and distributors WEF's mission is to preserve and enhance the global water environment

For information on obtaining copies of this manual, contact Lorraine Loken, Public Information Department, Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314-1994, or call (703)684-2400, fax (703)684-2492, or email lloken@wef org

For information on WEF's public education outreach materials, including curriculum, brochures, and bill stuffers, contact Jenny Galownia, Public Information program, at 703-684-2400, ext 6500.

Printed on recycled paper

Table of Contents

Preface

The Public Education Handbook is a compilation of event and program success stories Some are programs developed by Member Associations (MAs), others are sponsored by specific utilities or commissions that can be adapted and used for MA public education programs All are written by members of the Water Environment Federation's MAs to share their public education program experience with other MAs

The stories are presented in an informational form or as a "how to" guide They are case studies that can be drawn from where applicable, but you should not consider them to be precise formulas The Federation is composed of 64 MAs each with unique cultural, social, geographical, and economic conditions It is important that all of these individual factors be taken into consideration before an MA chooses to take on a specific program

Let this book be a springboard for your MA's creative thought processes Consider taking the bits and pieces that work for your MA to create your own public education success story Public education has only recently been added to the water quality fields arena We are all practicing and will learn from each other's experience

Once you have been successful, share your story! The Public Education Handbook is meant to be a "living and growing" document, and MA public education success stories will continue to be added

To receive periodic updates to the Public Education Handbook, return the attached questionnaire

Introduction

"Our work has a ripple effect every person that becomes involved and knowledgeable about water quality affects another segment of the public in a positive way "

The purpose of this handbook is to assist Water Environment Federation (WEF) Member Associations (MAs) in developing public education programs that benefit both water quality professionals and the general public While Public Education is a broad area, the guidance that follows is a basis associations can use to create programs based on their needs and member interests

The WEF Public Education Committee is committed to educating the public and gaining support for projects that protect and improve water quality Our objective is to get people involved in the education process about water quality We educate and work with our own members, community organizations, schools, civic groups, teachers, legislators and local decision makers All are important groups that present vast opportunities for public education

Our work has a ripple effect every person that becomes involved and knowledgeable about water quality affects another segment of the public in a positive way Understanding the protection and enhancement of water quality, including messages about the effectiveness of treating wastewater, and beneficially managing residuals toward continued improvements, has never been more important The importance of water quality must be clearly communicated and understood, all of which requires active support from all WEF members

Linda Hanifin Bonner, Past Chair
WEF Public Education Committee

Starting Out

Whether your Member Association's (MA's) public education committee is just starting out, or you have recently become chair, strengthening the committee's organization and gaining consensus around goals and a mission will help put you on the road to committee success Although there are no hard and fast rules for establishing a public education committee, we believe, based on our collective experience, the following ten principles will guide you

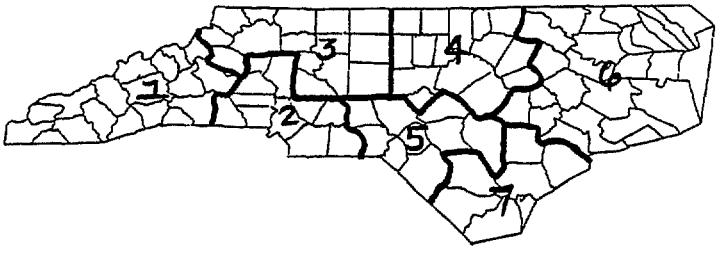
Organization

1. Identify committee members based on interest. Few of our members have formal training in communications Therefore, the determining factor for committee involvement must be based on dedication to the public education mission The few communications professionals who do exist should be involved and given leadership roles

2. Keep the committee size manageable Most committees function more productively with twelve or fewer members Meeting and reaching consensus is easier Committee members will be more accountable to assignments To involve more volunteers, assign subcommittees or form action groups For example the Rocky Mountain Water Environment Association has four action groups in different interest areas Youth Education, Adult Education, Resources, and Funding

3. Consider Geographical Representation. Many MAs span large and diverse geographical areas that represent different water quality issues A committee with area representatives will be more able to network throughout the state This is handy when responding to requests for speakers or the Adopt-A-School program

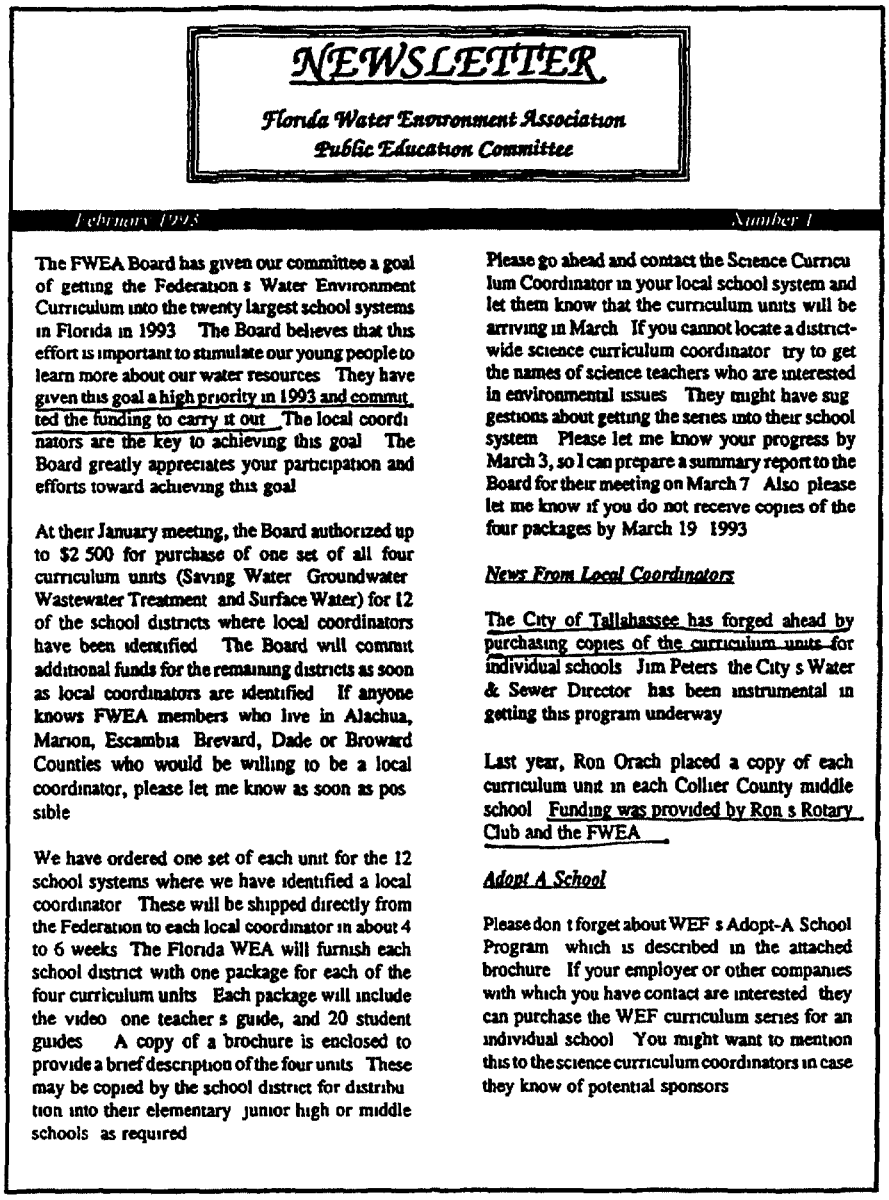
4. Define Regional Sections. MAs handle regional divisions in different ways For all of its association work, the Ohio Water Environment Association has divided the state into four sections Northeast, Northwest, Southeast, and Southwest The North Carolina Water Environment Association uses the regional offices of the North Carolina Department of Environment, Health, and Natural Resources Each region has at least one Public Education Committee contact person to respond to teachers, community groups and the media



5 Committee leadership needs commitment When forming the public education committee, appoint a chair and vice-chair The vice-chair can act as an assistant to the chair and heir apparent This allows the committee to continue to function even in the absence of the chair and maintain continuity in leadership

6 Maintain Records. Taking minutes during committee meetings that cover highlights and pay special attention to committee assignments will be helpful in establishing a record of activities

The Florida Water Environment Association uses meeting highlights and other public education news to print a one-page public education newsletter that goes to all committee and subcommittee members This quarterly newsletter gives the group a sense of being connected and shows the constant progress of their committee work



NEWSLETTER

Florida Water Environment Association
Public Education Committee

February 1993 *Number 1*

The FWEA Board has given our committee a goal of getting the Federation s Water Environment Curriculum into the twenty largest school systems in Florida in 1993 The Board believes that this effort is important to stimulate our young people to learn more about our water resources They have given this goal a high priority in 1993 and committed the funding to carry it out The local coordinators are the key to achieving this goal The Board greatly appreciates your participation and efforts toward achieving this goal

At their January meeting, the Board authorized up to $2 500 for purchase of one set of all four curriculum units (Saving Water Groundwater Wastewater Treatment and Surface Water) for 12 of the school districts where local coordinators have been identified The Board will commit additional funds for the remaining districts as soon as local coordinators are identified If anyone knows FWEA members who live in Alachua, Marion, Escambia Brevard, Dade or Broward Counties who would be willing to be a local coordinator, please let me know as soon as possible

We have ordered one set of each unit for the 12 school systems where we have identified a local coordinator These will be shipped directly from the Federation to each local coordinator in about 4 to 6 weeks The Florida WEA will furnish each school district with one package for each of the four curriculum units Each package will include the video one teacher s guide, and 20 student guides A copy of a brochure is enclosed to provide a brief description of the four units These may be copied by the school district for distribution into their elementary junior high or middle schools as required

Please go ahead and contact the Science Curriculum Coordinator in your local school system and let them know that the curriculum units will be arriving in March If you cannot locate a district-wide science curriculum coordinator try to get the names of science teachers who are interested in environmental issues They might have suggestions about getting the series into their school system Please let me know your progress by March 3, so I can prepare a summary report to the Board for their meeting on March 7 Also please let me know if you do not receive copies of the four packages by March 19 1993

News From Local Coordinators

The City of Tallahassee has forged ahead by purchasing copies of the curriculum units for individual schools Jim Peters the City s Water & Sewer Director has been instrumental in getting this program underway

Last year, Ron Orach placed a copy of each curriculum unit in each Collier County middle school Funding was provided by Ron s Rotary Club and the FWEA

Adopt A School

Please don t forget about WEF s Adopt-A School Program which is described in the attached brochure If your employer or other companies with which you have contact are interested they can purchase the WEF curriculum series for an individual school You might want to mention this to the science curriculum coordinators in case they know of potential sponsors

7. Develop Your Direction for the Short and Long Term Defining your public education committee's purpose will provide the context for formulating specific program strategies The statement should be brief and clear while it sets the direction and determines where resources will be allocated Specific activities, goals and objectives should be based on the mission statement

Committee mission statements may be different in each MA depending on the priorities of a particular region or the sophistication of the organization For example, the California Water Environment Association (CWEA) is one of the largest in the Federation with sixteen individual sections and corresponding public education committees CWEA's public education committee mission statement is written to serve those sections *"to develop and implement educational programs for personnel in the water pollution control field who implement or participate in public information or public education activities "*

On the other hand, the Virginia Water Environment Association's public education committee is a much smaller organization and has a completely external focus as its mission *"Educate the public concerning water environment issues, methods of controlling water pollution and the goals of the Association "*

The Water Environment Association of Ontario's public education committee is new Nonetheless, they have a clearly stated mission and specific goals that include working with other Canadian MAs to distribute public education materials Goals 1-3 below (see Appendix A for the entire statement)

- To work in cooperation with the WEF Public Education Committee to adapt available public education materials to reflect a Canadian water quality perspective
- To network with other Canadian MAs and other agencies to ensure that the information distributed by the WEA of Ontario reflects a Canadian water quality perspective
- To work with other MAs in Canada to distribute the Canadianized water quality public education information Canada-wide

8. Planning is Highly Important Whatever direction you decide to take in defining your public education committee, let it set a path for your long range plans The Federation's Public Education Committee used a strategic planning model in developing its long-range plan, which assessed previous and ongoing committee activities In addition to determining critical factors impacting its effectiveness, the planning process identified the Committee's objectives and functions, together with the strengths, challenges and opportunities that are the driving and restraining forces affecting its work As a result of its analysis, the committee operates with a clear vision and mission statement that set goals and objectives leading to a specific action plan

9 Plant Your Roots with a Vision & Mission Statement
The Public Education Committee's vision for the Water Environment Federation is to educate the public about the water environment, and facilitate their acceptance of current and new measures to preserve and enhance water quality and resources

The mission of the Public Education Committee is to develop, provide, and promote resources and strategies for communicating water quality preservation, enhancement, and advancements The following goals also have been set

- Develop public education materials and provide distribution strategies
- Provide leadership in promoting the value of protecting water quality
- Motivate and assist the MAs in developing and implementing public education programs
- Provide input to the Federation's marketing of public education materials
- Evaluate the effectiveness of committee programs, objectives, and materials

(See Appendix B for the committee's strategic plan)

10 Budget Effectively! The goals, objectives, and action plans you set in place will make your monetary needs apparent At the same time, they will help you effectively manage your resources Make sure your MA budgets for public education Even a small amount can make the difference between success and failure Presentation materials, school curriculum packages, artwork or sponsorship of key activities will be at least partially dependent on your funding options Even minimum funding will allow your group to progress from the talking stage to the doing stage

You may want to start small by budgeting for only one or two projects, then expand Present requests based on previous success Show the money is being spent wisely Build evidence by collecting documentation (articles, letters, etc) Utilize your MA newsletter and Federation publications to advertise and share public education successes Submit articles and photos on a routine basis Exposure to your work will make MA leadership more supportive when entertaining budget requests

Summary

There are many different approaches to forming and developing a public education committee The most important ingredient, as in most things, are the people Choose creative and enthusiastic volunteers, add some resources and support from the rest of the MA, and you will point yourself in the direction of success

Setting up a Speakers Bureau

New England's Bureau

by Susan Sullivan New England Interstate Water Pollution Control Commission, New England Water Environment Association

The ultimate challenge in life is to be an expert in everything Some of us are "Jacks of all Trades" others of us have one particular expertise In either case, there is always a topic with which we are unfamiliar and could utilize another individual more versed in that subject to help us increase our basic understanding It is with this thought in mind that the New England Water Environment Association's (NEWEA's) Public Education Committee, in conjunction with the New England Interstate Water Pollution Control Commission (NEIWPCC), developed a regional Speakers Bureau

This Bureau was developed to assist in the education of New England teachers, school children, municipalities, and other publics not versed in environmental concerns Given that both of the Speakers Bureau's founding organizations have their historic roots in protecting, preserving, and enhancing New England's water environment, it is logical that the volunteers committed to the Bureau are primarily well versed in water-related environmental issues

The common belief of this volunteer group is that citizens are not inherently bad nor do they set out to negatively impact our environment Individuals are primarily ignorant of the impact their actions may have on our natural resources, and as professionals in the environmental field, it is our responsibility to educate them whenever possible Hence the Speakers Bureau was formed!

How the Program Works

The Volunteers

The first step in developing the Speakers Bureau was to select our intended audience In New England, this audience was determined to include as many groups as possible with most of our audience consisting of school age children and their teachers Local community groups, municipalities, and colleges also are included, although they are not targeted routinely

The next step was to design a Speakers Bureau Sign-Up Sheet (see Appendix C) All NEWEA and NEIWPCC members are continuously invited to participate in the program In addition, mailings are forwarded to all new members about the Speakers Bureau, and advertisements seeking volunteers are included in the numerous newsletters

and journals the NEWEA and NEIWPCC sponsor Write-ups are also sent to all of the New England states Water Pollution Control Associations for inclusion in their newsletters Members of NEWEA's Public Education Committee attend association meetings to update individuals on regional programs and pursuits

From this outreach effort, a data base of volunteers is maintained Included in this listing are New England locations that the volunteers are willing to travel to, grade levels (K-college) or municipalities they feel comfortable educating, and the volunteer's particular area of expertise Areas of expertise include wastewater treatment, residuals, pretreatment, hazardous waste, wetlands, underground storage tanks, hazardous waste, drinking water, etc Environmental careers is an extremely hot topic that is requested frequently by our participating schools

"The Speakers Bureau program is designed so that no one volunteer will be asked to provide too many presentations throughout any calendar year "

The Speakers Bureau program is designed so that no one volunteer will be asked to provide too many presentations throughout any calendar year Nor do we request that they travel too far Typically presentations are provided to locations within one hour's drive from the speaker's home or office Also, the volunteers always have the luxury of saying they are unavailable that day, although they are always asked if they know of anyone else who may be willing to speak!

The Schools

During development of the volunteers data base, a mailer was prepared and forwarded to all of the schools in New England This mailer is sent in late spring with the anticipation that teachers would become aware of the Speakers Bureau and consider incorporating speakers on water related issues into their upcoming school year (sample letter in Appendix C) This mailer is sent out on a yearly basis, and the mailing list is continuously updated based on the schools' responses

There are approximately 5,000 schools presently on our database Anyone interested in obtaining the names and addresses of schools located in their region can typically contact that state's education department and request the list However, be prepared Many states do not make this information available on computer disks or even in lists that can be scanned onto the computer, and many man-hours can be spent on data input

Fulfilling The Requests

Requests for speakers are also listed on a data base developed for this purpose Fields of interest include state, grade level, month requested, etc Requests are reviewed and filled on a monthly basis, and approximately 40 are filled per month As many schools have submitted multiple topic requests, the response to this program has been overwhelming

NEIWPCC & NEWEA
SPEAKER'S BUREAU REQUEST FORM

Name _____
Affiliation _____
Address _____
City _____ State. _____
Zip _____ Phone _____
Fax _____
Other Info? _____

***Please include a phone number**

Program Specifics — Date(s)

____	*Water Quality*	_____
____	*Water Conservation*	_____
____	*Lakes*	_____
____	*Wetlands*	_____
____	*Wastewater*	_____
____	*Watersheds*	_____
____	*Env Careers*	_____
____	*Drinking Water*	_____
____	*Sludge/Septage*	_____
____	*Non Point Source*	_____
____	*Other* _____	_____

Please allow a one to two month time frame for scheduling
For additional information, please contact Susan Sullivan at 617/367-8522 Speaker attendance will be confirmed verbally or in writing

The Continuous Challenge

As the requests from schools and municipalities keep flowing in for speakers, the need for volunteers keeps growing Providing a variety of individuals prepared to give quality presentations is a constant challenge We have striven to increase the number of available speakers through training and recognition programs

For training, NEWEA offers one-day sessions for its regional wastewater treatment plant operators and other associated Speaker Bureau volunteers These "Train the Trainer" programs are designed to increase the communication skills of participating individuals and help them become good speakers

The NEWEA and the NEIWPCC also jointly manage a library of educational curriculum materials which is available for use by all of the Speaker Bureau volunteers This library includes the WEF's Adopt-A-School Curriculums, the New England Science Teachers Program Curriculum and Science Kit (a different program not highlighted here), various state, federal, and local curriculums, and numerous videos and products In this manner, volunteers do not have to develop their own programs to present to the schools or municipalities

We are always sure to thank the many volunteers who dedicate their time and energy to the Speakers Bureau by highlighting them in our professional newsletters We also believe the following three items assist us in recruiting volunteers, and we would recommend that associations considering creating their own Speakers Bureau try them

1 Stress the need for an environmentally educated work force and general public
2 Harp on members sense of self worth and their desire to assist their communities to become more knowledgeable on educational issues
3 Beg!!!

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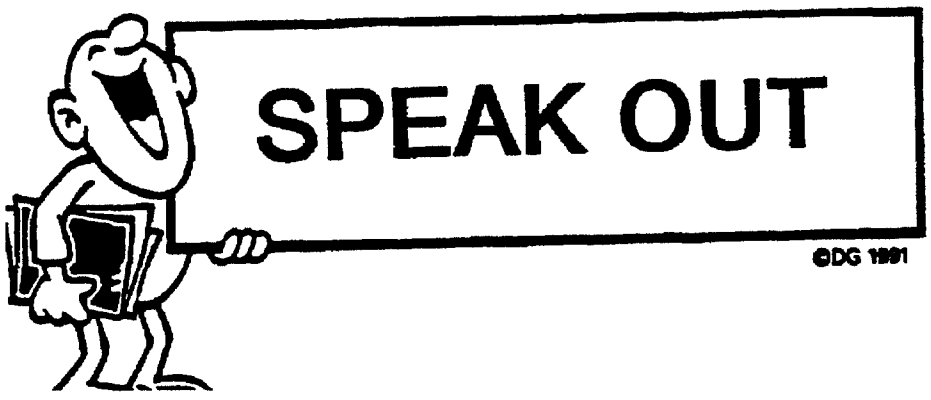

by Dr Pearl Laufer, Washington Suburban Sanitary Commission, Chesapeake Water Environment Association

The Washington Suburban Sanitary Commission (WSSC) conducts an annual "Speak Out" in the Spring The purpose is to reach area students with important information about water, conservation, and the environment Because we are an agency with several hundred schools in our service area, we decided to narrow our focus to students in grades 3 - 5

Promotion

We approached the appropriate supervisors at the boards of education and asked them to help us disseminate information about this project to their teachers A flier was distributed Teachers were then encouraged to phone directly and arrange for a speaker for their students

Send out information about the availability of speakers early enough to leave time for phone calls, scheduling, etc Consequently, we began the campaign in late January

Concurrent with this effort, three WSSC employees were busy recruiting speakers from the various WSSC facilities and disciplines within our 2,100 person workforce and preparing materials that could be taken to the classroom We decided to give each student a book cover, some basic information on water distribution, and a book on some experiments dealing with water

Program

Once the speakers (41) were recruited, we held a meeting at which we could brief the speakers, answer questions and discuss the materials available WEF's "H20 TV The Wastewater Video," was the visual aid and quite well-received Two chemists did a demonstration on how water is treated at the treatment plant The hands-on

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activities were designed for replication by non-technicians

Our goal in addressing these young people was to heighten their awareness about water usage and the many thoughtless ways in which water is wasted Typically, the speaker would begin by asking, "How many of you brushed your teeth this morning?" Of course, all hands would go up The speaker would then continue, "How many of you let the water run continuously while you were brushing? Predictably, almost all the same hands went up Most of the students never thought about the water wasted which then has to be treated at the wastewater plant as a result of this routine activity After having it brought to their attention, however, most of the students said they planned to be more careful in the future

Benefits

The importance of addressing students is twofold Very often, students, particularly eight to 11 year olds, will share information learned at school with their families Through them, we raise the consciousness of the adult population Additionally, these young people will, one day, be ratepayers themselves An educated consumer is more likely to conserve

Follow-Up

We also did a follow-up after the "Speak Out," and asked both speakers and teachers to evaluate the program There was unanimous acclaim for the effectiveness of the program from both speakers and teachers In all, we addressed more than 2,000 students

Adopt-A-School Programs

Water Environment Curriculum Program

An animated "spokes-dinosaur," music video-style presentations, and a video game format are some of the features the Water Environment Curriculum Program uses to teach your students about water quality Targeted to grades 5-9--the age at which most students study water quality--the program consists of four units on different aspects of this topic Each unit contains a video, a teacher's guide with suggestions for hands-on classroom activities, and student guides to reinforce the concepts presented.

Saving Water The Conservation Unit

Imagine a visit to a museum of the future Curator Dino Sorrus explains how all the earth's water, except for one small vial, has been wasted or polluted beyond use Students see what might happen tomorrow--unless they begin preserving our water supply today

The Groundwater Video Adventure

The often puzzling concept of groundwater is explained with a video game format and game-master Dino Sorrus An on-screen student gains points by preventing groundwater pollution from industrial, agricultural, and private residential sources However, students learn that preventing groundwater pollution is not just a game--it's something they should do every day

The Wastewater Treatment Unit - H20 TV

This entertaining video presents a complete overview of the wastewater treatment process, explains to students how they are affected, and spells out what they can do to promote clean water

The Surface Water Unit

Your students will examine water quality issues and learn how the water cycle works, along with Dino Sorrus and live-action students

Reports from the field on the state of today's surface water quality will give your students ideas on how to prevent water pollution.

What Is It?

The Adopt-A-School program is a positive step you can take to help educate students about water quality and treatment issues Today, children and teachers are concerned about the environment By adopting a school, you will be helping to educate a new generation about this precious resource

One way to participate, is by purchasing a Water Environment Curriculum unit Designate the school system that should receive it and you can receive a Certificate of Appreciation, suitable for framing in acknowledgement of your support

There are a number of ways you can help put the Water Environment Curriculum Series in schools

- Individual sponsorship of a school
- Member Association sponsorship of a school or school system
- Gaining corporate sponsorship of a school system
- Generating a corporate or government grant for materials (The Alabama's Water Environment Association received a partial grant from the United States Environmental Protection Agency, Region IV, to introduce more than 7,000 school children to the Water Environment curriculum program)

The Adopt-A-School program is more than just purchasing materials It represents your commitment to act as the water quality expert resource to a particular school or teacher

Superintendent of the Tuscaloosa County Board of Education(right), accepts the H20 video curriculum program from Public Education Chair, Jim LaMoreaux, of Alabama's Water Environment Association.

Winfield (Kan.) Daily Courier, Wed., June 2, 1993

TOUR — Winfield Middle School sixth-graders from Mike Fell's class examine drying beds during a May tour of the Winfield Waste Water Treatment Plant at 21st and Andrews streets. Treatment plant superintendent Randy Storrer gives tours of the plant to students from the Winfield school district. This particular tour was in conjunction with the water environment curriculum purchased by the treatment plant and Binney & Smith Inc. (Dan Lara/Courier)

In addition to the obvious rewards of educating the public, the Adopt-A-School program helps build good community relations and as the Kansas Water Environment Association found out may even bring you some positive publicity

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New Jersey's Program

by Ron Sackowitz, Western Monouth Utility Authority
New Jersey Water Environment Association

"The true value of the Adopt-A-School Program is in water quality professionals who are willing to bring their message to children."

New Jersey Water Environment Association's (NJWEA) outreach program has many facets, one of which is our Adopt-A-School Program Although started only three years ago, an aggressive approach has allowed us to touch children in all parts of New Jersey Financial support from the NJWEA administration has given us a jump start However, money alone isn't good enough The true effectiveness of the Adopt-A-School Program is in water quality professionals who are willing to bring their message to children The NJWEA does that both in the classroom and through educational tours of facilities

Starting Up

Several years ago the Public Education Committee was asked to take a look at approaches that might better convey our interest in, and commitment to, protecting the environment Several activities were earmarked for follow-up, but the activity that really caught our attention was the Adopt-A-School Program We felt it would allow us to influence youth throughout the state, not only to develop an awareness of water quality protection, but to consider careers in the water quality field After all, it's up to the children to carry on the work we're doing to protect the environment Encouraging them helps ensure our future water quality

Financing

To give this program a shot in the arm, the NJWEA Public Education Committee proposed involvement by the State association and its three sections in a matching grants program Each section could have an influence in making the activity a success We requested an initial commitment by NJWEA of $4,500 worth of packages ($1,500 per Section), the $1,500 allocation per Section was contingent on each Section providing matching funds of $500 each This would give us a $6,000 start The concept was unanimously approved by the executive committee and later by each of the three Sections

Distribution

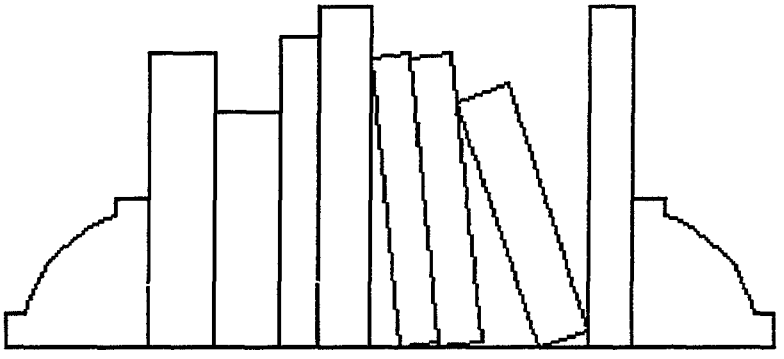
Concurrently, we contacted the New Jersey Department of Education to assess how to best reach the most students at one time After discussing many scenarios, we decided to initially reach out to county audio/visual (A/V) districts (21 in New Jersey) who could then make the packages available to science teachers in each school within the county The state's science curriculum project coordinator sent

notice to A/V directors in each district via electronic mail NJWEA county coordinators hand delivered the packages individually to each of the 21 districts and explained our program They also advised A/V directors on what resources NJWEA members can offer to enhance water quality education

Because there are four Adopt-A-School packages (wastewater, water conservation, groundwater, and surface water), our initial distribution was for the wastewater and water conservation units The other two curriculum units were distributed the following year (after approval of NJWEA's new budget) A total of five packages were given to each district, three wastewater and two water conservation packages, 105 total Through promotions among the membership, several water, wastewater, and solid waste authorities plus industries acquired another 25 packages and distributed them directly to individual schools throughout the state

Administering the program is a challenge A core group, consisting of our Adopt-A-School Coordinator and three Section Representatives, North, Central, and South, work with 21 NJWEA county coordinators throughout the state

The county coordinator's main function is to be a liaison with the county school system, the A/V Commissions, and the NJWEA His/her name and phone number are printed on labels placed on curriculum units Responsible for promotion, explanation and delivery, the coordinator has a "Facilities That Offer Plant Tours" list and can arrange speakers (see Appendix D) Follow through by the county coordinators is essential



A Lending Library

by Debi Spyros, Madison Metropolitan Sewer District, Wisconsin Section of the Central States Water Environment Association

Shortly after the Wisconsin Section of the Central States Water Environment Association (CSWEA) established a Public Education Committee (PEC), the need for a lending library was recognized It was the only way to quickly achieve objectives to introduce and increase the availability of WEF's H20 curriculum series in Wisconsin schools The Wisconsin Section PEC also wanted to promote the Adopt-A-School program and familiarize educators with the resources available through wastewater utilities

How We Did It

To establish the library, the PEC purchased two sets of each of the four WEF H20 video curriculum units, a videotape produced by Milwaukee Metropolitan Sewerage District (MSD), and commercial videos used for public education by Madison MSD The Madison MSD volunteered to administer the library and pay for shipping costs All materials were made available to schools and civic groups at no cost to the recipient

The library has been advertised through a letter to a Milwaukee newspaper, articles in education publications, the PEC's participation in the Wisconsin Society of Science Teachers, the Central States WEA and the Wisconsin Wastewater Operators Conference newsletter The PEC has also promoted the Lending Library through its participation in seminars for wastewater professionals in the state

By year's end, the popularity of the Lending Library had grown immensely Evident to the PEC was that a full-time administrator would be needed The PEC contacted the Cooperative Education Services Agency (CESA), an educational resource sharing agency serving the state through 12 district resource lending centers After review of the materials and a presentation to the resource center

coordinators, CESA agreed to assume administration of the Lending Library The Wisconsin Section, at the request of the PEC, purchased one set of each of the four WEF H20 video curriculum units for each of the 12 resource centers

A letter was prepared and provided to the CESA centers for mailing with each loan (see Appendix E) The letter encourages schools to contact their utility regarding the Adopt-A-School program and other teaching aids available through the utility

In addition, the PEC obtained from the Wisconsin Wastewater Operators Conference copies of a statewide wastewater utility directory listing a contact person at each of over 600 wastewater plants The PEC provided a copy of the directory to each CESA resource center to facilitate communication between the schools and local wastewater utilities

Results

There is a high demand for water quality educational resource materials in Wisconsin It is an environmentally conscious state and one of the first in the United States to require environmental education as part of the science curriculum Establishing a Lending Library allowed the Wisconsin Section PEC to meet at least part of the demand with the resources available Expanding the Lending Library by joining with CESA has increased availability of the curriculum units through the involvement of 12 more resource centers and proved to be a great success

New York's Experience

by Robert E Adamski, New York City Department of Environmental Protection, New York Water Environment Association

The Water Environment Federation (WEF) has developed four curriculum packages or units geared to junior high schools The units, including surface water, saving water, groundwater and wastewater, are designed to make students and teachers feel good about protecting their water resources by understanding the processes involved The New York Water Environment Association (NYWEA) is promoting the curriculum through an active adopt-a-school program

In order to place these units in schools, parents, teachers, consulting firms, etc have been asked to buy and donate them to schools In New York City, the Board of Education stated that it received many curriculums, and in order to make WEF's more worthwhile to the City schools, additional assistance would be helpful They requested that classroom sessions, assembly programs or field trips be provided to the schools that were adopted

To expand WEF's program, in addition to asking parents to adopt their childrens' schools, the program coordinator of the NYWEA's Met Chapter asks firms doing work for the city of New York to adopt a school near the projects where they work In order to accomplish this, a map was obtained of all city schools, and junior high schools located near the projects are identified and contacted Usually the principal for each school is called, but if the principal is not available, the assistant principal for science is approached During this phone call, the adopt-a-school program is explained and permission is requested to adopt that school

Depending upon the circumstances, a verbal approval may be given over the phone or additional information may be requested If additional information is requested, the adopt-a-school status report and brochure is sent to the school A follow-up phone call is made to see if the material was received and if permission can be obtained to adopt the school

Getting in touch with the schools can be difficult because the principals are involved in many activities such as parent conferences, teacher meetings, or supervising lunch rooms, arrivals and dismissals Persistent calling is essential Once approval is received, a letter is sent to the firm that has agreed to adopt the school This letter gives the name of the school, asks the firm to obtain the curriculum packages and, by copy, notifies the school to confirm its adoption

It is suggested that firms receive the units from WEF and present them to the school rather than having them sent directly to the schools In some cases, the coordinator orders the packages and has them billed to the firm The coordinator then arranges for delivery to the school

After a firm has received the curriculum units, it calls the coordinator, who then gives them the name of the person in the school contacted for adoption After the firm contacts this person, it is left up to them to work out the best program for the school In some cases, an assembly program is set up for the firm to come in and speak on a topic of its choice In other cases, the firm can provide a speaker to assist in a preplanned career day If the school is interested in a field trip, this is set up with the local treatment plant and the firm

When the adoption has been completed or a significant event such as a field trip is approaching, a press release is prepared and sent out to the local newspaper This is done to encourage the newspapers to send someone to cover the adoption

When the adoption is complete, the firm is sent a thank-you letter and the WEF certificate is presented (see Appendix F) Certificates can be ordered by calling the WEF Public Information Department In order to track the program, the map mentioned earlier is given a dot and a number

Celebrities can also be approached to adopt schools To date this has been unsuccessful, but professional baseball players, football players or television stars might be approached to adopt their alma maters or schools near where they perform

To inform people about the program, an annual status report is produced It includes a spread sheet to track how many packages have been donated as well as how many class sessions, and field trips have been offered

Working With Your Science Teacher's Association

by Lorraine Loken, Manager of Public Education, Water Environment Federation

"By taking a high profile in the NSTA, WEF positions its members as the water quality professionals science teachers can rely on as an expert resource."

As much as Federation members would like to, it is impossible to reach all students with WEF education materials Our limited resources force us to concentrate efforts where we will reach the most people Science teachers have a great deal of influence on youth and water quality education Recognizing this fact, WEF supports and works in cooperation with the National Science Teachers Association (NSTA) by exhibiting and doing workshops at the national, regional, and state level with assistance from the local Member Associations (MAs)

Member Association Involvement

WEF's goal is to link all MA Public Education Committees with state chapters of the NSTA Operating in much the same way WEF does, NSTA offers opportunities to exhibit and present workshops at national, regional, and state chapter conferences It is the perfect place to get the word out and let science teachers know the resources we have to offer as water quality experts The exhibit and workshop is an ideal forum for introducing new technologies or offering objective viewpoints on water environment issues To assist MA involvement in the NSTA, materials specifically targeting science teachers are available for giveaway at teachers conferences, and a table top exhibit is available on a loan basis In addition, WEF is continuously seeking cooperative efforts and partnerships to develop new curriculum enhancement materials for teachers and students at all grade levels

Benefits

By taking a high profile in the NSTA, WEF positions its members as the water quality professionals science teachers can rely on as an expert resource As a result, they are more likely to enhance their water quality curriculum utilizing WEF public education materials and water quality professionals

One of the side benefits in working with the NSTA is that our presence leads curriculum publishers to seek us out for technical review on water environment issues This is particularly important because it gives us the opportunity to insure objective presentation of water environment issues and influence over the terminology used, i e "Biosolids" vs "Sludge " Likewise, at the local level, school system curriculum developers may look to MAs for technical review

Make Contact

The first step is to contact your NSTA state chapter Find out when and where there next annual meeting will be, if there are any fees associated with exhibiting, and how to propose a workshop presentation for the conference Also, you will want to know how many teachers attend their annual conference as it varies widely from state to state

Joining your NSTA state chapter, either as an individual or as an Association would also be helpful Most state chapters publish a newsletter, in addition to the one you receive from the National Science Teachers Association As a member, you will be kept up to date, and be able to submit articles or run notices promoting the resources we have to offer

Establish Status

Many state chapters charge an exhibitors fee to cover expenses at the annual conferences Since WEF and its MAs are not-for-profit organizations, we will be eligible for reduced or free space at many state chapter conferences When requesting exhibit space, it is important to emphasize that we are there to promote the Adopt-A-School program and other resources, not selling materials

Submit a Program Proposal

Once you have made the initial contact and established your non-profit status, make sure to submit your exhibit application and program proposal for a workshop by the deadline dates Try to make your description or abstract apealing as it will probably be used in the final program Also, make sure you have ordered or have available the proper AV equipment such as a TV/VCR and overhead projector

Recruit Volunteers

Now is a good time to start recruiting volunteers for exhibiting and presenting the workshop Start with your Public Education Committee, but don't be afraid to go beyond it In many cases, you will even find volunteers from outside the organization that have an interest in presenting water quality issues to science teachers

Expect to do a lot of talking These conferences are the teacher's opportunity to gather as many resources and as much information as possible Many teachers will want to know who they can contact locally It may be helpful to bring a zip code order list so you can give member contact names from local communities

The Workshop

Most NSTA state chapter workshops are one hour long and will accomodate somewhere between 20 and 50 science teachers The workshop should consist of a five minute introduction to WEF and its mission (see Appendix G) You will want to emphasize the important role educators play in protecting future water quality

Next, give an explanation of the Adopt-A-School program and how teachers can explore their water quality community resources Show the Wastewater Video as an example of the H20 TV series and as an introduction to the subject matter

Lastly, we suggest breaking down into smaller groups and allowing teachers to perform hands-on water quality activities presented by volunteers Actually performing the activities or setting up the procedures makes it easy for teachers to use the same exercises in their classrooms

Conclusion

Establishing a relationship with the NSTA state chapter can be a valuable part of your MAs public education efforts The partnership could prove invaluable in achieving our ultimate mission, the preservation and enhancement of the global water environment

For more information about the National Science Teachers Association, state chapters, conference dates and locations, contact

National Science Teachers Association
1840 Wilson Boulevard
Arlington, VA 22201-3000
(703)243-7100

To learn more about WEF resources for Member Association involvement in NSTA State Chapters contact

Lorraine Loken
Manager of Public Education
Water Environment Federation
601 Wythe Street
Alexandria, VA 22314-1994
(703) 684-2487

Special Events & Programs

Tualatin River Rangers

by Linda Kelly, Unified Sewerage Agency of Washington County, Pacific Northwest Pollution Control Association

One of the Unified Sewerage Agency's (USA) greatest challenges is educating citizens about water issues and what they can do to help the Agency meet some of the strictest water quality restrictions in the nation Toward that goal, the Agency developed "The Tualatin River Rangers" program which is presented by Agency employees to over 5,000 4th graders each school year

The program was awarded WEF's first-ever Public Education Award in 1991 Four years after its development and 20,000 students later, it continues to wear the name "success "

How the Program Works

The Ranger program teaches about surface water runoff problems, wastewater treatment, and water conservation The presentation includes colorful posters, uses active participation teaching techniques, and concludes with a booklet full of hands-on learning activities

Included in the booklet is an activity where children solicit their parent's help in finding containers of "things" that could pollute the water A check list of common household materials that shouldn't be poured down any drain is provided The booklet asks kids to place a River Ranger (DON'T DUMP DOWN DRAIN) sticker on the container to remind them to dispose of the material properly when finished After they complete the assignment, students are rewarded with an Official River Ranger Badge (It may not look like much to you, but it's a big deal to 4th graders)

How We Did It

With an implementation date of January 1, 1990, a group of five employees and a local 4th grade teacher, lead by the public affairs manager

- Assessed the needs and developed the goals,
- "Sold" the idea to management by ensuring benefits (after all, they were allowing 22 employees to take two hours every few weeks to make presentations),

- Developed the presentation and titled the program,
- Hired a cartoon artist to draft the posters and draw the booklet,
- Made two "test" presentations with draft materials to classrooms for students critique (we made several changes based on students input),
- Trained 22 employee volunteers who had an interest in water education,
- Introduced the program to superintendents and principals by letter, and then scheduled presentations with teachers by phone,
- Had teachers evaluate programs and presentations,
- Responded to teacher's requests for follow-up activities by developing the "Gift To The Teacher" package complete with water facts and spin-off activities and experiments

Is The Message Sticking?

We are amazed when we survey students and find that they remember key messages years after the presentation Parent's tell us their kids are constantly "pestering" them to be mindful of wasting and polluting water We reinforce the Ranger's messages often by painting murals on our fleet, and by making his larger-than-life image visible at community events The excellent feedback from superintendents, principals, and teachers has been overwhelming

Since the creation and implementation, we have received many requests to share the program, so we now can offer the generic version to anyone who shares our water quality goals The program is being successfully implemented from Dallas, Texas to Riverside, California

Benefits

Short term The upbeat and positive presentations give students initiative to share the lessons learned with their families so immediate changes in water protection and conservation occur

Long term The program is initiating a behavior change in children that will ensure a water protection ethic for generations

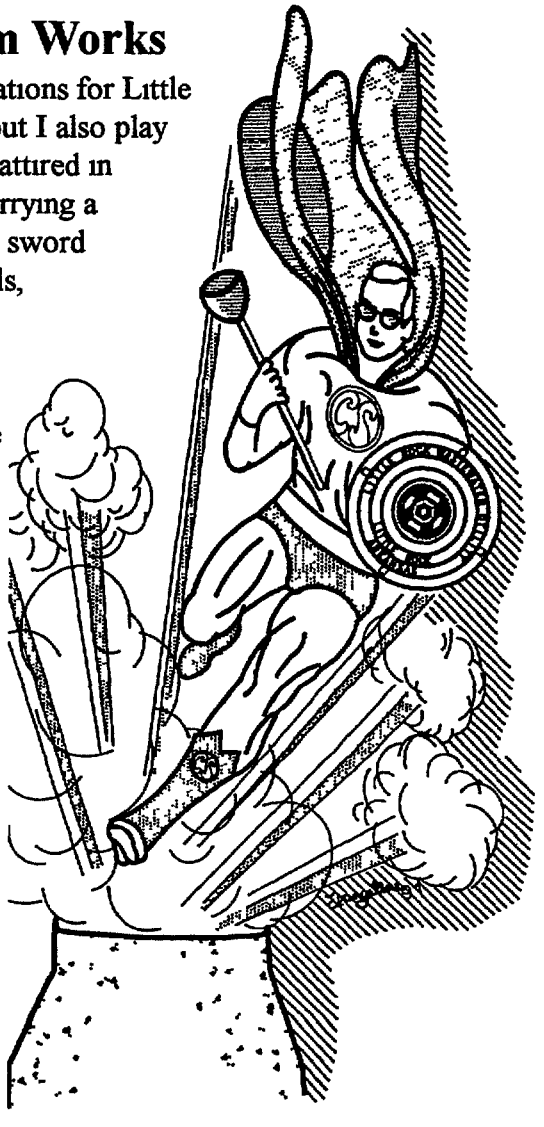
Captain Sewer

by Rick Barger, Little Rock Wastewater Utility, Arkansas Water Environment Association

Given today's busy lifestyles, educating the public about water and wastewater issues can be especially difficult Educators compete with the media, sports, school activities, and many other interests Little Rock Wastewater Utility, Little Rock, Ark , has successfully reached school children, business leaders, civic groups, and the general public with a superhero character and a simple, down-to-earth program focusing on the water cycle, water usage in the home, and the natural biological processes used to treat wastewater The program was developed for Kindergarten-Eighth Grade (ages 5-14) but appeals equally to adults Within the metropolitan area of Little Rock, an average of one appearance per week (about 800 children and adults per month) is scheduled

How the Program Works

I am director of operations for Little Rock Wastewater Utility, but I also play the part of Captain Sewer, attired in tights, cape, helmet, and carrying a toilet lid shield and plunger sword Captain Sewer visits schools, Boy and Girl Scout troops, civic organizations, senior citizens groups, and environmental events, where he presents a humorous and thought-provoking message concerning the scarcity of clean water and the need for conservation



The "Learning About Water Usage with Captain Sewer" coloring book is distributed at the beginning of the program to help students answer water-usage questions by coloring in the appropriate figures Depicted in the coloring book are such ordinary household events as flushing the toilet, showering, bathing, laundering clothes, and running the dishwasher

How We Did It

The program was implemented in January, 1989, and is directed by myself and a team of volunteers In order to implement the program

- The costume was designed and assembled
- The idea was approved by management as a public relations program
- The presentation was developed and a collection of timely props collected
- The coloring book was designed and illustrated by Utility personnel and printed locally
- Tested the program at a local elementary school
- Presentations scheduled by telephone for other schools and civic events
- Presentations scheduled to correspond with various conferences and conventions

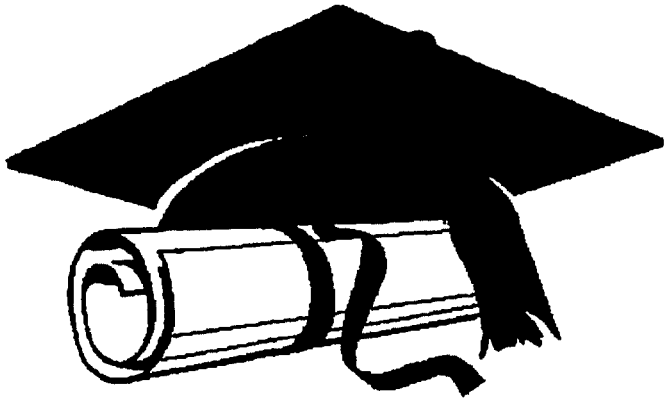
Is the Message Sticking?

Evaluations completed after the program and correspondence from individuals who have seen the program or read articles in various publications assure us that the message is being well-received and implemented The Utility has received requests for information on the program from 30 states, Egypt, and Pago Pago The Captain Sewer Program was awarded the American Metropolitan Sewerage Agencies' National Public Information and Education Award for 1993

Benefits

The immediate reward is knowing that members of this generation are learning about the need for water conservation in a way they can understand and implement, and are taking the information home to their families

More long-term benefits arise from a better public awareness of the need for an efficient and well run metropolitan sewerage agency



The Ten Day Water Environment Curriculum

by Greg Cargill, Metropolitan Water Reclamation District of Greater Chicago, Illinois Water Environment Association

As our Mission Statement says "The Illinois Water Environment Association (IWEA), a state group of the 40,000 member Water Environment Federation (WEF), and the Illinois Association of Wastewater Agencies (IAWA), a group comprised of more than sixty agencies responsible for providing wastewater collection and treatment services to eight million Illinois residents, have created a comprehensive curriculum on the water cycle, wastewater treatment, and the relevance of our water environment Together, we are highlighting the importance of teaching the concepts related to the preservation of water

Our primary objectives include presenting our Water Environment Curriculum to students in the 5th through 10th grades, working with teaching professionals who can sustain this program into the future, and integrating the classroom instruction with a site visit to a water filtration and/or wastewater treatment facility An important aspect of our curriculum is the involvement of students we believe in hands-on experiments, field ecological studies, and participative classroom demonstrations We are committed to the advancement of science and education, disseminating technical information, increasing Public awareness, and promoting sound public policy in the water quality and water resource fields "

Program Topics

Day 1 The Water Cycle
Day 2 Dissolved Oxygen
Day 3 Drinking Water
Day 4 Wastewater Collection
Day 5 Wastewater Treatment
Day 6 Micro-organisms
Day 7 Solids Processing
Day 8 Groundwater
Day 9 Water Conservation
Day 10 Facility Tour

How the Program Works

There are three important aspects of the IWEA/IAWA educational program targeting the specific schools, supplying the guest speakers and reference materials, and coordinating the financial requirements of the program Our educational undertaking is designed to be completely self-sufficient not only do we support the technical aspects of classroom teaching with training aids and guest lecturers, we also assist in raising the necessary funds for each program

The IWEA/IAWA's primary target groups are the junior high schools in the State of Illinois Our ultimate goal is to integrate our curriculum into all of the more than six hundred junior high schools in the state Other levels and schools will be addressed as the need arises and the program develops

The basic support philosophy we are utilizing is a "grass roots" approach We have divided the state into eighteen regions, each of which is coordinated by a local IWEA/IAWA representative This approach facilitates distribution of materials plus provides guest speakers who are well-known locally We are developing regional libraries of classroom materials and a Speaker's Bureau, thus we will be able to fulfill any school's request on a timely basis

Additionally, the IWEA/IAWA has established a fund-raising program, designed to obtain support for targeted schools from local companies, firms, etc The financial needs have also been subdivided into several categories, so that in many situations, it is envisioned that three or four organizations would support each school

Our final goal is to "teach the teachers" who would carry on this program by themselves, especially as the water environment curriculum is repeated year to year At that stage, the IWEA/IAWA would provide fewer guests speakers, but would continue to coordinate the plant tours, the distribution of classroom materials, and the financial aspects of the program

Results to Date (First Two Years)

- Curriculum utilized in 40 schools
- More than 2,000 students exposed to curriculum
- "Total Water Cycle" concept appreciated by teachers
- "Student Involvement" goal has been reached
- In-service workshops for science teacher groups conducted
- Approximately $10,000 raised in support of the program
- Program became financially self-sufficient
- More than 90% of schools utilize curriculum on year-to-year basis
- Forty IWEA and/or IAWA members involved
- Won 1993 WEF Public Education Award - Member Association Category

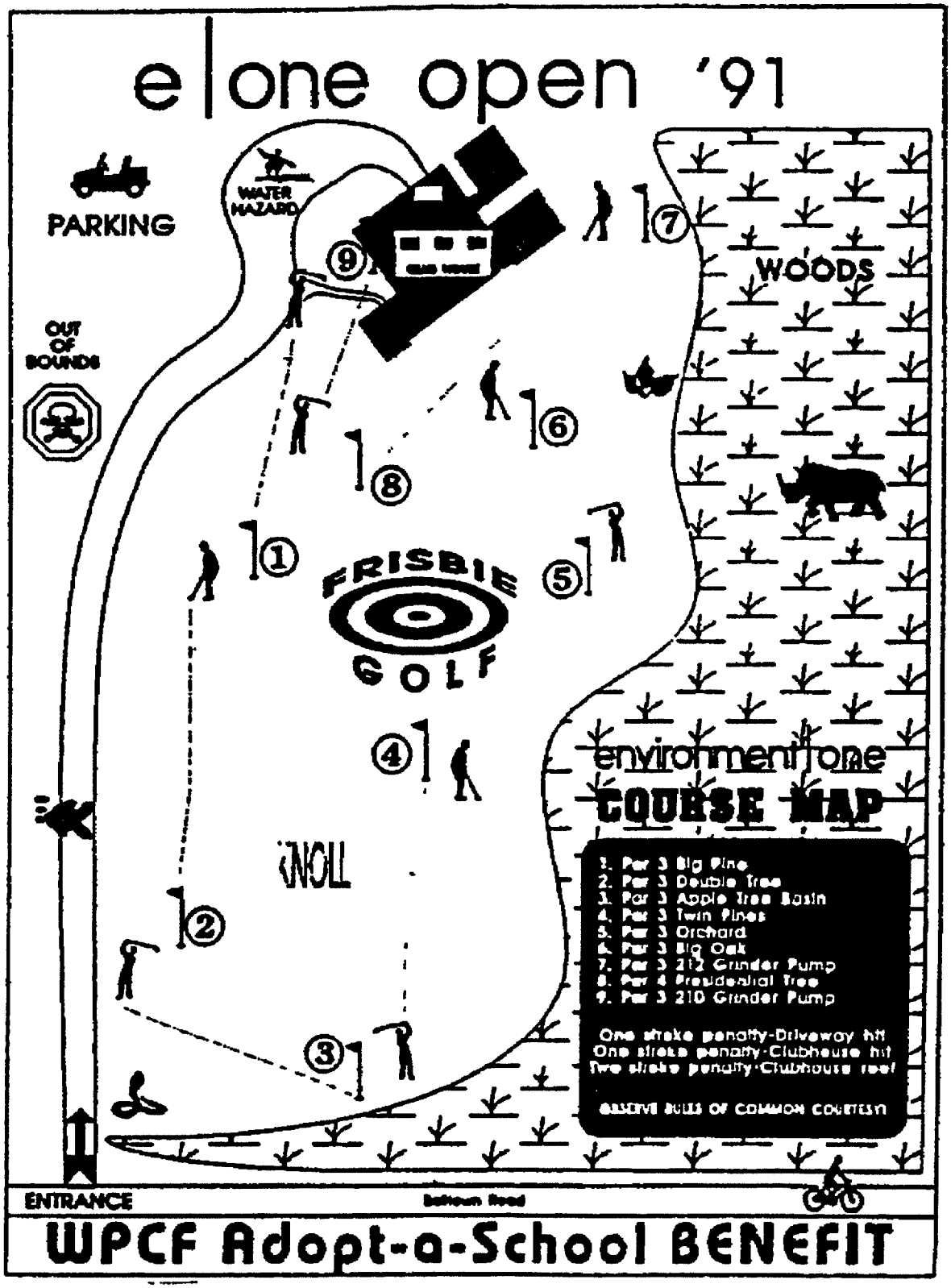
Immediate Goals (1993-1995)

- Expand program into 60 new schools
- Maintain 90%+ level of program reuse
- Expand program into at least two new schools in each region
- Conduct 10 in-service teacher workshops
- Create formal speakers' bureau
- Create formal facility tour listing
- Expand fund-raising component
- Revise and expand the curriculum

Summary

The first two years of the IWEA/IAWA Ten Day Water Environment Curriculum have been extremely successful in terms of creating an educational program that can be easily integrated into most schools More importantly, the program has achieved success in terms of the large number of students who have responded well to the challenge of understanding our environment The partnership between the local community (business, manufacturers, consulting engineers, and environmentalists) plus the schools utilizing our program, has been outstanding Funds to support the program have come locally in each region, it is our belief that the program will have little, if any, financial burden to the schools

The final goal of "teaching the teachers" is becoming a reality An in-service presentation can promote the program within a dozen or more schools systems at the same time These teachers will not only teach their current (and future) students, but their endorsements will sell the curriculum to their peers This type of program expansion will allow the IWEA/IAWA Ten Day Water Environment Curriculum to tens of thousands of Illinois students


e|one open '91
PARKING
WATER HAZARD
WOODS
OUT OF BOUNDS
FRISBIE GOLF
KNOLL
environmentone
COURSE MAP
1. Par 3 Big Pine
2. Par 3 Double Tree
3. Par 3 Apple Tree Basin
4. Par 3 Twin Pines
5. Par 3 Orchard
6. Par 3 Big Oak
7. Par 3 212 Grinder Pump
8. Par 4 Presidential Tree
9. Par 3 210 Grinder Pump
One stroke penalty-Driveway hit
One stroke penalty-Clubhouse hit
Two stroke penalty-Clubhouse roof
ENTRANCE
WPCF Adopt-a-School BENEFIT

15

A Frisbee Tournament

by R Paul Farrell, Environment One Corporation,
New York Water Environment Association

What Is It?

The E\One Open is an Outdoor Frisbee Golf Tournament held annually to raise funds for the Adopt-A-School program It is sponsored by New York Water Environment Association's (NYWEA) Capital District Chapter and the Environment One Corporation

Where Is It held?

The tournament is held on Environment One's wooded acres It is a convenient spot within the town of Niskayuna, N Y Environment One Corporation welcomes the opportunity to share its park-like setting with the community

Involvement

The Board of Directors of the Capital District Chapter NYWEA was approached by one or two civic-minded employees of Environment One with an outline of the proposed Adopt-A-School plan This resulted in enthusiastic endorsement by the Board, who then appointed a director as event Chairman Board members agreed to participate personally and "talked it up" to generate support and enthusiasm among the general membership

School administrators and science faculty from the immediate community were asked to preview and comment on a pilot presentation of the video and class materials Enthusiastic endorsement and a commitment to recruit some student foursomes resulted Healthy interscholastic rivalries were also encouraged

Volunteers

Meanwhile Environment One Corporation found a dozen willing co-workers to take on the myriad of tasks involved in putting on a successful event Top management encouraged this participation and approved a modest out of pocket budget plus a significantly larger contribution of employee time and effort to make the event happen These volunteers handled publicity and mailings, laid out the course, designed score cards, planned a children's program, recruited baby-sitters and course officials, groomed the grounds, placed markers at each tee acknowledging sponsor contributions, designed and obtained (at cost) commemorative T shirts and Frisbees

Other businesses were invited to sponsor a foursome and make contributions of refreshments, tents, prizes etc A popular local TV personality volunteered as "MC", and a local sports caster played a

mock round with the "champion" from E One, which appeared on evening TV the night before the tournament An aspiring and public spirited young free lance photographer documented the entire event in both color and black and white providing a huge pool of top quality photos for publicity purposes (see appendix H for sample press release)

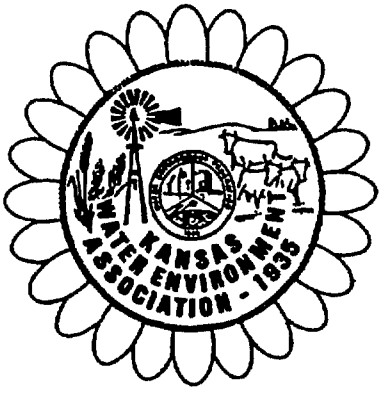
General Comments

It was a family-oriented event Children's participation was encouraged by holding a kiddies round early on Tournament day and by providing sitters and other children's entertainment The gods have smiled on our efforts and we've had perfect weather two years in a row!

Results

Twenty-five Wastewater H20 Video Curriculum units were distributed the first year and 41 the second, to middle schools throughout the 15 county region served by the Chapter Since this includes more than 150 separate school districts, the offer was made by mail simultaneously to every school in the district The earliest replies earned a module The overall response has been gratifying Students have gained an awareness of what Federation members do for the community, where tax dollars go and about career opportunities in the wastewater field We have even had a teacher inquire about membership in our Association!

"Doubt" is the greatest obstacle to getting started It takes an initial leap of faith The Capital Chapter has proved it can be a great success Following these guidelines, your Association can have a fund raising success story too



Coloring Poster Contest

by Steven DeHart, Aero-Mod Inc ,
Kansas Water Environment Association

For the last two years, the Kansas Water Environment Association (KWEA) has sponsored a state-wide poster contest for students in grades 4-6 Through this contest, teachers and students were recognized for their understanding of and ability to express the importance of environmental practices

How We Did It

Using the state-wide school directory, a mailing list was compiled Four weeks prior to the deadline date, an invitation was sent to each school district's science curriculum director (although many students' work had been done as an art project discussed by the art instructors) asking for the entries to meet the following criteria

- Using any medium, students should design a poster expressing an environmental protection theme on an 8 1/2" X 11" sheet of paper
- Complete the enclosed form and mail entries by (date specified) to (address specified)
- Entries submitted become the property of the KWEA and may be utilized for publishing by KWEA

Close to 750 entries were received from across the state and reviewed by a panel of three judges, who critiqued each entry based on environmental message and original creativity First and second place winners were chosen at each of the grade levels Winning posters and selected others were displayed at the annual KWEA State Convention

During school-wide assemblies in their home schools, KWEA members presented each of the first-place winners with the equivalent of a $100 00 savings bond and second-place winners with the equivalent of a $50 00 savings bond Winners also received a ribbon, certificate, and framed color copy of their original poster

Written permission was received from the winners' parents or

guardians which allowed posters and names of the entrants to be used in all publications News releases also were written and sent out to announce the winners in local publications (see appendix I) The top six posters were published in SPLASHINGS, the state KWEA publication

Each participating teacher was sent a complimentary copy of the booklet Experiments with Water and Wastewater for Fun and Learning

Results

The KWEA committee was overwhelmed by the large number of entries and the quality of work submitted Those attending the state convention were very impressed by the creativity and originality of the posters as well as the knowledge and concern about the environment that was portrayed by the students

We have expanded the poster contest by utilizing the first and second place poster winners as the color cover for our state quarterly journal "Splashings" Another use of the posters has involved the production of a color, state association activity calendar that is soft stapled inside the quarterly jornal Association supporters have advertised within the calendar to help off-set the printing costs

In an attempt to support the savings bond program for the students without utilizing association funds, this year a limited edition belt buckle and pin were sold

After conducting the program for the last several years, I have found it to be a worth while endeavor Several calls have been received from teachers, students, and parents expressing their appreciation of the KWEA for its commitment to the environment and tomorrow's leaders

Science Fair Awards

by Mary Evans City of Tyler,
Water Environment Association of Texas

Water Environment Association of Texas (WEAT), a large and sophisticated organization divided into 12 regional sections, faces challenges administering any program statewide Yet, WEAT has a very strong public education program A major program component is with educators and youth through the Texas Science Teachers Association and State/County Science Fairs

Benefits

For the last six years, WEAT has been actively judging and making awards for science fair projects related to water environment issues Encouraged by recognition, water environment related projects have increased ten-fold Although hard to measure, WEAT believes students also are more encouraged to consider water quality related jobs In addition to these benefits, WEAT's profile and name recognition are enhanced amongst educators and youth That recognition and trust could prove extremely useful in future years

Costs

Once convinced of the benefits, most associations will have no problem supporting the endeavor with finances and volunteers Costs for awards can be as low or high as you wish In some cases, certificates are all that is awarded Simple recognition means a lot to these hardworking science students WEAT solicits corporate support for awarding the grand prize, an expense paid trip to the NASA Space Camp in Alabama or Florida All regional first place winners are invited to exhibit at WEAT's annual conference, where the drawing for the grand prize takes place

Promotion

Once you have contacted your local school system's Science Fair Coordinator about your interest and award offering, you likely will be listed with other award givers and materials distributed to all participating science teachers Science teachers pay particularly close attention to the special awards listed They encourage their students to participate as a way to expand the number that will be recognized WEAT also promotes the awards program when exhibiting at the Texas Science Teachers Association's annual conference

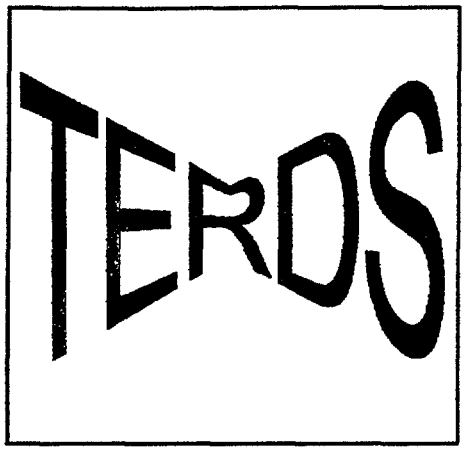
Administration

The following are steps WEAT uses to implement a Science Fair Awards program

- Send letter to Regional Science Fair Judge who participated in previous year event Ask if that individual is willing to serve as Judge for current year If they are unable to participate, individual is asked to recommend an alternate (see Appendix J)
- Regional Science Fair Judge fills out the Science Fair Judges Participation Form and returns it to the State Science Fair Coordinator (see Appendix J)
- State Science Fair Coordinator sends list of confirmed Judges to State Treasurer Treasurer sends each Judge a check for awards
- State Science Fair Coordinator sends Information Packets to Judge Included in this package is information on the Regional Fair approximate date, contact name, phone number, and location of the Fair In addition, a list of WEAT Procedural Guidelines for judging is included (see Appendix J)
- Regional Judges submit JUDGING REPORT to State Science Fair Coordinator as soon as Fair has been judged (see Appendix J)
- Names of all first place winners from each Science Fair are entered into a drawing to be held at the Annual WEAT Conference The winner of the drawing receives an all expense paid trip to the NASA Space Camp

Future Goals

WEAT is looking for ways to tie the successful Science Fair program into its annual conference Plans are underway to solicit sponsors for each Regional Science Fair First place winner so that they can attend the WEAT Annual Conference (Currently only the winner and the regional fair's runner ups are able to get to the conference and display projects) Financial support would allow regional winners to display their projects and compete for the grand prize, a trip to NASA Space Camp



by Gregory Eyerly, Wheelabrator EOS Inc ,
Pacific Northwest Pollution Control Association

Treatment and Environmental Resources Demonstration for Schools (TERDS), is a way for Wheelabrator EOS to volunteer company time to serve local high schools with a twofold mission First, to educate students in the basic wastewater treatment process, it's importance and the impact on our environment Second, to demonstrate and relate high school science curriculum as it applies to wastewater treatment "Hey, like what your learning in school is real "

How the Program Works

TERDS is presented by the infamous Dr Dung (lab coat and name tag) to give high school a basic understanding of how wastewater is treated Further, Dr Dung demonstrates how biology and chemistry relates to the various plant processes Dr Dung gives a slide show walking students through each step of the treatment process "From wastewater in the buff all the way to pristine final effluent " This slide show is supplemented with "real live wastewater samples" of each plant process (including stinky solids handling) stored safely in sealed glass jars for easy viewing

Microscope displays of activated sludge are set-up around the room for further visual enhancement The nitrogen cycle and anaerobic digestion are explained in detail with a heavy emphasis on chemical nomenclature and microorganisms involved Other examples are bucket chemistry stunts, metal precipitated out of tap water, Dr Dung drinking sludge (brown colored orange juice) and plants growing in stabilized sludge and ash

Throughout the presentation the students are challenged to ask questions, give answers, touch, smell and think Participation is rewarded right or wrong with an occasional Dr Dung Sewer Scientist business card, kind of a local cult item

How We Did It

- With the full support of management, we assembled a basic presentation format
- Called local high school science directors and sent a FAX explaining our curriculum
- Started giving presentations
- Made additions and deleted material based upon student and teacher response

Is The Message Sticking?

After 13 presentations to approximately 500 local high school students, we have been overwhelmed by the positive response from students and teachers We have received letters and cards from students and teachers, as well as requests for repeat demonstrations and plant tours With minimal promotional effort, demand has exceeded our ability to give our high impact presentations Even our local newspaper has expressed interest in doing a story on our educational efforts

Benefits

Short term Extinguishing a number of myths about wastewater treatment and it's impact on our receiving streams Excellent public relations for everyone involved in water treatment, public or private

Long term Building a framework and opening educational channels for the City of Vancouver's Water Resources Education Center This facility is to be completed in 1995 and will have the ability to reach out to the community with a much broader and more effective message

Building Strategic Partnerships

Communication, Trust, and Added Value

by Susan Seacrest, Groundwater Foundation, Nebraska Water Environment Association

The singular emphasis of the Groundwater Foundation is groundwater Its roots lie deep in the nation's most groundwater rich state, a state whose prosperity rests on groundwater's bounty The Groundwater Foundation's mission is to create factually informed and motivated citizens caring about and for groundwater Groundwater is often the "forgotten" resource because it is invisible to the eye Yet, it is the lifeblood of many agricultural states and an increasingly important source of water all across America

Groundwater Foundation programs, annually serving over 10,000 citizens directly and many more indirectly, empowers average people to actively respond to the water management issues facing them and their communities Foundation activities raise awareness and provide information in scientifically accurate, yet user-friendly programs Funded primarily by memberships, the Foundation has no political agenda or economic vested interest Consequently, divergent points of view and coalition building are encouraged Strategic partnerships, like the one with the Water Environment Federation, are a key component of effective groundwater management They are the cornerstone of the Groundwater Foundation's success story

Partnerships and Programs

Probably the most important factor in the Foundation's ability to establish successful partnerships lies in its ability to provide existing organizations and institutions effective, high-impact outreach opportunities This is accomplished through regular communication, establishing trust, and most importantly creating programs that people care about

"Partnerships born in the trust of friendship are nurtured by the added professional value partners experience."

One of the most effective tools used by the Groundwater Foundation was forming a program advisory committee Members of this program advisory committee were professionals from many established groundwater-related areas including consulting engineers, university professors, and Natural Resource District personnel Regular meetings promote communication, and this regular communication develops trust

The Foundation's strict educational mission and attention to scientific accuracy have encouraged cooperation between diverse groups In fact, an additional bonus of Foundation programs is that they bring diverse interest together in an educational, rather than confrontational setting

Diverse participation happens because the foundation has an established track record of ideological balance and the ability to fairly and accurately present diverse points or view In fact, conflict resolution is a major goal of many of the annual groundwater symposiums, such as the one on conjunctive use issues, 1992's "Truth or Dare "

A memorable moment occurred at a symposium held several years ago when a wildlife advocate and power company official were sharing the dias in a moderated discussion Their only previous contact may have been across a table in a legislative hearing chamber The wildlife manager exclaimed, "I'm finding myself agreeing with you and it's blowing my mind " Discovering common perspectives and common ground will be an increasingly important way to help solve future water management challenges

" each partnership helps broaden understanding, develops new target audiences, and increases Foundation credibility "

Successful partnerships must also be built on trust Trust is most quickly established when groups and organizations share common experiences and benefits The partnership with the Water Environment Federation has enriched the Foundation's ability to more fully understand water management issues As programs are implemented, the personal relationships formed with Federation members have enriched everyone There is great value in friendships that develop as a result of professional partnerships Partnerships born in the trust of friendship are nurtured by the added professional value partners experience

Foundation partners understand first-hand this "added value " The Foundation has discovered that each partnership helps broaden understanding, develops new target audiences, and increases Foundation credibility On the other side, the partner's public profile is enhanced, more people understand the partner's mission and message This enhanced sphere of understanding often includes potential clients

"This donation (in-kind services) is a cost-effective way for the Districts to collectively participate in a program that would be prohibitively expensive and time consuming if undertaken on an individual basis."

or customers The identification with education is seen by most people as a cost-efficient, effective, yet non-controversial method for personal behavior change, and promoting water quality improvement Selected examples follow

- The University of Nebraska has provided expertise and leadership to the Foundation annual symposium on specific groundwater related-issues Here a unique problem solving/public dialogue format was developed, tested, and improved
- Symposium proceedings are given extra impact by distributing summaries to key policy makers, including state legislators These reports give Foundation co-sponsors full written credit
- Nebraska's Natural Resources Districts have provided staff time and in-kind services to the Foundation's Children's Groundwater Festival (described later in this article) This donation is a cost-effective way for the Districts to collectively participate in a program that would be prohibitively expensive and time-consuming if undertaken on an individual basis
- The Cooperative Extension Service has provided media packets for groundwater week, and now helps to sponsor 15 local groundwater festivals based on the state-wide event in Grand Island
- Private industry helps fund programs and provide in-kind assistance Isco Inc , a Lincoln-based international producer of specialized water measuring instruments, has provided production and printing services to the Foundation's award-winning quarterly journal, The Aquifer This was done in a spirit of gratitude and public service toward a resource that forms the basis for the company's profits A similar spirit motivated Valmont Industries, a leading manufacturer of center pivot irrigation equipment, to provide funds and technical assistance at the Children's Groundwater Festival Coors Pure Water 2000 funds develop an annual public education campaign in the state's newspapers, and sponsor "Groundwater Talk" which is heard during each football game broadcast on the Cornhusker Football Network Coors helps the Foundation reach a huge audience, and the Foundation helps Coors get close to Nebraska football
- Federal and state agencies are frequent co-sponsors The United States Environmental Protection Agency and the United States Geological survey are both currently involved in cooperative programs to implement the water festival concept in other states State-level agencies like the Natural Resources Commission provide expertise and technical assistance across many Foundation programs
- Professional associations like the Water Environment Federation also proved to be of critical assistance For example, WEF has offered both professional expertise and volunteer assistance at such Foundation programs as the Nebraska State Fair Outreach

Program, annual symposium series, and Children's Groundwater Festival The WEF is also offering financial support and distribution assistance for the Children's Groundwater Festival manual, Making Waves

Partnerships are also an effective way to build program sustainability Foundation officials have found that it is much easier and many times more effective to recruit in-kind assistance through partnership development than to obtain continuing financial support An organization or institution playing an active role feels a vested interest and stronger commitment towards making a project a success This increases the likelihood for success, and this encourages long-term partner involvement

" it is much easier and many times more effective to recruit in-kind assistance through partnership development than to obtain continuing financial support."

The Foundation's partnerships have become "institutionalized" and form the bedrock of its existence The Foundation's reach has exceeded its grasp because of continuing access to professional expertise and time that would be impossible if the Foundation was required to maintain a staff offering the equivalent of these professional services

Children's Groundwater Festival

The importance of partnerships like these are most visible at the Children's Groundwater Festival which has been an overwhelming success from the beginning More than 8,000 children registered for the 1993 Festival, representing a resounding endorsement for both content and format

When it began in 1989, the Children's Groundwater Festival was a completely new idea In fact, organizers were discouraged from attempting to stage an event centering on something most people have never actually seen However, Foundation volunteers, known for tenacity and creativity, were not deterred Because of the partnerships described and many others the Groundwater Foundation had no problem getting experts from every water related entity in the state to participate State and Federal agency personnel, academicians from higher education, industry executives and environmental organizations each planned state-of-the-art activities

In answering questions about what could be provided for students, Festival organizers stressed the importance of innovation, and providing experiences not lectures! Festival partners responded with enthusiasm and perception With over 100 activities to choose from, children do everything from examining corn samples in "Corn Galore," to learning through the fun and magic of "Dino Sorrus Speaks," (an annual favorite sponsored by the WEF and staffed by WEF professionals!)

New technology is showcased through activities like EPA-sponsored water testing, and hydrological computer games Students study aquatic habitats utilizing the latest in video technology and staff a portable weather station with sensory equipment straight out of "Star Wars"!

The Festival has become a international model In 1993, visitors included members of the National Groundwater Education Consortium and in 1992, a delegation of children, officials, and teachers sent by Mexican President Carlos Salinas attended and are now planning a national water festival in Mexico City

National Geographic Magazine featured the Festival in its March 1993 issue and National Public Radio covered the Festival in 1993 All this national attention means that the Foundation receives dozens of groundwater information requests each week

"Communication, trust, and added value, are the key components to establishing strategic partnerships listening is critical to maintaining these components "

And although this attention is important in helping advance the educational mission of the Groundwater Foundation, it also provides added value for the Festival's many volunteers and activity presenters For example, as a partial result of the photographs in National Geographic Magazine, the University of Nebraska has seen an increase in orders for its groundwater flow models

Other groups use their participation in the Festival to promote their message and recruit support This is strongly encouraged because Festival organizers understand that this event would not even exist without its unselfish partners who so generously provide enthusiasm and knowledge Using their Festival experience to publicize their cause is part of the principle of added-value

The Foundation finds partners in unexpected places, from the beautiful "Groundwater quilt" made by the children at the Festival under the guidance of the Nebraska quilters guide to Merle from "Bosselman's Pump and Pantry," who explained the dangers of leaking underground tanks The experience is diverse, and the messages myriad (For more details on setting up a festival, see the Making Waves manual)

Lessons Learned

Communication, trust, and added value, are the key components to establishing strategic partnerships Foundation officials have also learned that listening is critical to maintaining these components

For example, several years ago an irrigation group expressed concern about content balance at the Festival The Foundation's response was to form an agriculture issues leadership team to provide program advice The person expressing the concerns was asked to chair the team

This group did such an outstanding job developing activities for the Festival, that they have continued to provide valued counsel to other agriculture related Foundation programs Partnership development turns potential conflicts into positive change

Foundation partners care about groundwater, and they want to make a difference They understand that only through cooperation can everyone achieve maximum benefit Like ripples from a stone tossed into a pond of water, these partnerships will continue to spread And as they do, so will increased groundwater awareness and long-term commitment to its protection

Communicating with the Public

Siting

by Patsy S Clark, Patsy S Clark & Associates,
Michigan Water Environment Association

THE CHALLENGE gaining acceptance and approval for a technical solution within the framework of a political system

The All-Too-Familiar Scenario

You and others have devoted months of effort to determine the most cost-effective approach to building much needed new wastewater collection/treatment facilities The plans are ready to go out for bids, and a citizen's group raises a collective voice, "You're going to put that thing here? Not on your life - or ours!" Such comments are often made with full news media attention And they are usually complete with implications that the local government or industry had something sinister to hide or you would have informed the public earlier

When the shouting stops and the dust settles, you go back to Square One You begin the painstaking process of dealing with the opponents' anger, working through their objections, settling disputes, and reaching consensus -- with periodic calls for "time out" for opponents to beat you up for going so far without consulting the public (Most subsequent news coverage also mentions the fact that the proposal met with heated opposition when the opponents found out about it)

Finally, after some delay the opponent's objections are answered, compromises are made, and construction gets underway

Changing the Scenario

With any project, the chances for a successful public information program are often directly related to the point at which the Public Information program is begun Experience dictates that early is better

"Better late than never" is certainly true Yet, it has been our experience that postponing the program until after major decisions are made generates needless animosity

The topics that cause disputes are usually considered during the study phase of the project, so the program should begin with the study This approach provides an opportunity to address questions before they become sticky points

Concerns About Treatment Facilities

For systems in which a physical/chemical treatment plant is recommended, nearby residents usually ask about odors, noise, truck traffic, and architecture Others in the community express concern about the effect on water quality downstream of the discharge point and groundwater

In communities in which stabilization lagoon systems are recommended, residents ask about odors, impact on water quality downstream of the discharge point or other places, impact on groundwater quality, and wildlife It's always good to be able to point out a system in which migrating waterfowl land on the ponds

Concerns About Collection Systems

For lift stations, the most frequent questions asked are about architecture, screening, odors, noise, and reliability

For force mains, residents along the route are concerned about reliability, breaks, and the safety of their water supply

Getting Organized for the Study

Evaluate the primary audience In most cases, the primary audience will be neighbors of the facility, including businesses in the area Opinion research is the most effective method of objectively evaluating the audience

Evaluate their concerns This evaluation may have little to do with reality and may have everything to do with acceptance of the proposal

In siting new facilities, technical professionals will concentrate on the facts of how to best solve the problem, but neighbors near the proposed facilities will concentrate on the very personal question of how the facilities may impact on their property <u>The goal of the Public Information program will be to build a bridge across the gulf that separates the technical from the personal</u>

Activities for Primary Audiences:

Neighborhood meetings, with prepared summaries of presentations plus questions and answers, to discuss key elements and decisions,

Newsletters and direct mail,

News media, print and electronic, including public access cable when appropriate, and

Tours of similar facilities and/or meetings with officials and neighbors of similar facilities with photos or video presentation

Evaluate secondary audience(s) The general public and other environmentalists * Opinion research is also extremely effective in evaluating these audiences

**Wastewater professionals are concerned environmentalists To refer to activist groups as environmentalists infers that wastewater professionals are not Hence, the term "other environmentalists" is used to refer to activist groups*

Evaluate their concerns Most often the concerns of the secondary audiences are related to the cost of the project However, it is important to gain the secondary audience's support for the proposed site Their support can reduce the potential for a sympathetic alliance with opponents, which is often based on incomplete information

Activities for Secondary Audiences·

Presentations to interested groups,
Media relations, prepared news releases, and
Courtesy distribution of advisory and neighborhood meeting summaries

EXPLANATIONS IN RESPONSE TO PRIMARY AUDIENCE CONCERNS

Concerns About Treatment Facilities	Response
Odors	Identify common sources Cite measures that will be taken to control odors in the proposed facility
Noise	Compare noise from the proposed facility to other common sounds Cite measures that will be taken to reduce noise levels in the proposed facility
Truck Traffic	Show access routes--with visual aids of the layout and alternative routes Have alternative delivery times, if available Identify types of trucks that will be making deliveries Name chemicals that will be used and characteristics Plan control measures to protect against spills
Architecture	Have architectural design alternatives Develop site plan alternatives, including landscaping
Impact on water quality from discharge downstream and groundwater	Explain computer models and what they mean Illustrate various treatment alternatives and what they accomplish

Concerns About Collection System Facilities	Response
Architecture (the major concern, particularly in residential areas)	Have architectural design alternatives Develop site plan alternatives including landscaping
Odors	Explain measures to control
Noise	Explain measures to control
Reliability	Show design features to assure reliability Illustrate alarm system and how it works Describe portable power units and how they are used

Secondary Audiences

The same information prepared for the primary audience can be tailored to address the concerns of the secondary audience, usually with fewer details

The Role of an Advisory Committee

When an advisory committee is on board from the start of the study, the group serves a valuable, two-way communications purpose The members receive complete information about the project and in turn, ask questions and express concerns that reflect the attitudes and opinions of a larger audience

What Is The Committee Purpose?

To meet periodically, review information, ask questions, express opinions

Who Should Be Committee Members?

Residents and business representatives from near the proposed facility
Residents and business representatives from other areas
Other environmentalists

Review Items

Purpose of the proposed facilities
Alternatives
All sites to be considered

Advantages and disadvantages of each
Progress of the study and/or design
Information gained so far
Items to be evaluated in the next phase
Committee members' questions and concerns
Committee members' preferences in those instances when there is some flexibility in the design
An explanation in those instances where there is no flexibility

Note A written summary of the discussion items presented by the technical team should be prepared for each Advisory Committee meeting Following the meeting, a summary of the discussion including questions asked and answers given should also be prepared These materials can also be used in other presentations and adapted for use with the general public and news media

Summary

The road to site approval is often rough However, the trip can be smoother, faster, and friendlier if wastewater professionals consider the concerns of their neighbors and others, initiate effective, two-way communications early in the study before decisions are made, demonstrate willingness to address concerns, and listen -- very often, that is all that is needed

Ontario's Conference Publicity Plan

by Penny Davey, Environmental Science & Engineering Magazine, Water Environment Association of Ontario

Media coverage of the 1994 Water Environment Association of Ontario (WEAO) Conference in Windsor was wide, varied, and unsurpassed by coverage for any other meeting since the association was created For example, incoming WEAO President Brian Evans was interviewed by several reporters as were several of the program presenters, and conference Chair Glenn Vicevic also was kept busy fielding questions from diverse media

How We Did It

What were the reasons for such media attention when the conferences usually receive scant attention? One difference was the Public Education Committee went out of its way to invite both electronic and print media to the meeting and then make them welcome Press releases were sent out with invitations for the media to attend Media folders were available with the program and presentation highlights where possible This made it easy for journalists to identify subjects of interest

Media management included efforts to direct reporter inquiries to qualified people We also had volunteers who could suggest subjects or provide additional details to the media These activities should be repeated in future conferences

Finally, the meeting was not in Toronto Conferences are a tough sell in the Queen City, not because of media indifference, but because there are important conferences virtually every week, sometimes several in fact Competition for space is fierce in Toronto

Both WEAO and the Ontario Pollution Control Equipment Association (OPCEA) executive officers firmly believe that every effort must be made to regularly repeat the media exposure which the Windsor conference attracted

Steps to Success

In general, Member Associations should take the following steps to ensure media attendance

Maintain a media mailing list with special attention to environmental reporters,

Plan ahead and provide early invitations to the media,

Develop press invitations that zero in on potentially newsworthy

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presentations,
Create a climate of welcome,
Assemble a folder containing program abstracts, along with a brief history of the Association to help media compile stories more easily and accurately,
Have volunteers willing to speak to the media and direct them to appropriate sources,
Have at least a media table, or room, with telephone, brochures, and papers, plus a quiet area set aside for TV and radio interviews, and
Break up these tasks into component parts for several people to implement more efficiently

It is unfortunate that environmental experts are rarely quoted by the media Implementing a publicity plan, for the Member Associations annual conference, could by a start toward correcting this gap in public information

Orange Water and Sewer Authority

The Blue Thumb

The OWASA Newsletter August 1995 Vol 5 No 1

Member of American Water Works Association
Member of AWWA Research Association

Member of Water Environment Federation
Member of WEF Research Foundation

What You Should Know About *Cryptosporidium*

Cryptosporidium a microscopic parasite exists widely in the environment and can be found in nearly all lakes and streams in the U S It lives and reproduces in warm blooded animals and humans It can cause an intestinal illness called cryptosporidiosis People can be exposed to *Cryptosporidium* wherever they may come in contact with feces or fecal contamination (daycare centers hospitals animals contaminated food or water) You may recall the widespread outbreak of waterborne cryptosporidiosis in Milwaukee Wisconsin in 1993

Because OWASA s water sources are surface water reservoirs they contain some *Cryptosporidium* The organism poses a challenge to water suppliers because it is small enough to pass through water treatment plant filters and it cannot be killed with chlorine the primary means of disinfecting water

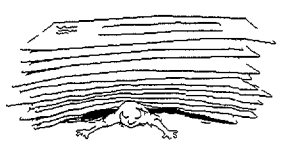
However through watershed protection and carefully monitored water treatment water suppliers can remove virtually all *Cryptosporidium* from the water No *Cryptosporidium* has been found in samples of OWASA s treated water However current testing methods for *Cryptosporidium* are unfortunately not reliable

The low levels of *Cryptosporidium* which may pass through a treatment plant pose no serious threat to those with normal immune systems according to the Centers for Disease Control However those with severely weakened immune systems are less able to fight off the parasite and are at greater risk of infection

In a June 15 1995 statement the U S Environmental Protection Agency and the Centers for Disease Control advise immunocompromised persons to talk to their health care providers about extra steps they can take to minimize their risk of *Cryptosporidium* infection The most effective step is to bring drinking water to a rolling boil for one minute

OWASA makes every effort to be proactive in the protection and treatment of the community s water supply If you would like to know more about *Cryptosporidium* and OWASA s efforts to reduce your risk of contacting it please read the enclosed brochure

Clean Water On Draft



Are you tired of writing checks and licking envelopes and stamps to pay your water bill? Consider signing up for **Automatic Bank Draft** Call the Customer Relations Department at 968 4421 to request an application About six weeks after sending in your request your monthly water and sewer charges will be deducted from your bank account and your bill will read Bank Draft Do Not Pay

Recycling Water Treatment Solids into Bricks

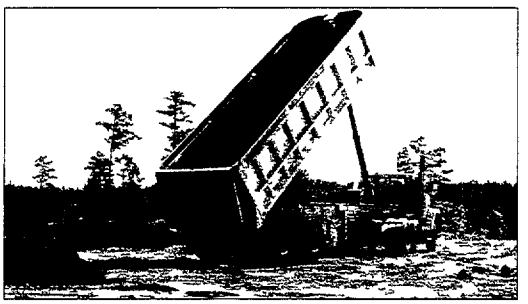
Each week OWASA s water treatment plant purifies about 50 million gallons of water from University Lake and Cane Creek Reservoir Left over each week are 15 20 tons of mud and other solid particles removed from the drinking water The problem is what to do with all that sludge Previously it had to be landfilled

In June OWASA began transporting the dewatered sludge to Cherokee Sanford Brick Company in Gulf NC where it is blended into bricks The sludge gives red bricks a black mottling Bricks made with sludge still exceed ceramic quality standards

OWASA already recycles the biosolids from the wastewater treatment process into agricultural fertilizer Recycling solids from drinking water treatment puts another of OWASA s by products to beneficial use And the sludge is no longer taking up landfill space

Financially OWASA breaks even Rather than paying about $400 a week in landfill fees OWASA now pays the cost of hauling the sludge and a tipping fee to Cherokee

Cherokee Sanford Brick Company is one of the largest brick producers in the nation They make use of several types of non hazardous industrial by products in their bricks OWASA is pleased to be a part of this large scale recycling effort



OWASA delivers a load of solids left over from the water treatment process to Cherokee Sanford Brick Co for use in making bricks

Grease Reminder

Please don t pour grease down the drain! The melted fat left over from browning meat or using a deep fat fryer won t remain a liquid for long down your drain It hardens quickly and coats the inside of your pipes and sewer service lateral (which OWASA does not maintain) As the coating builds up water will drain more slowly and eventually the pipe will clog Grease that makes it way into OWASA s sewer mains can build up and cause sewage back ups

Instead pour hot grease into an empty can to cool and then place the can in the trash OWASA s Sewer Crews thank you!

Communicating With Newsletters

by Ingrid Byker/Linda Vaughn, Orange Water & Sewer Authority, North Carolina Water Environment Association

Newsletters can be a great way to communicate, if you have the dedication and resources The following are some basic reasons to have a newsletter for customers or employees, plus some tips for getting started (See sample on preceeding page)

Customer Newsletter

A customer newsletter can be an effective way of informing your utility's customers about its activities and educating them about water issues Easily used as a billing insert, a customer newsletter can

Show customers where the money goes,
Educate the public on water and wastewater treatment,
Make maintenance, repair, and water shut-off announcements,
Give progress reports on difficult or lengthy repairs, capital projects, or problems,
Announce rate increases and policy changes,
Educate the public on water conservation and water contamination prevention,
Highlight the service of utility employees, "humanize" the utility,
Announce the utility's awards, innovations, and test results,
Show customers the utility's contributions to the community, such as volunteer projects,
Request public support, votes, or water conservation, depending on the circumstances,
Give the utility's perspective on newspaper coverage of its activities,
Survey customers on service or policy questions,
Offer drawings for water conservation appliances (aerators, showerheads, toilet dams) using mail-in tear-offs,
Inform customers about easement maintenance schedules and meter replacements

In addition, don't forget to check out WEF's inexpensive line of bill stuffers to communicate basic water quality messages to your customers

Thumb Prints
THE OWASA EMPLOYEES' NEWSLETTER
July 1995 Vol 4 No 1

Employee Newsletter

An employee newsletter can be an effective way of informing your utility's employees about company activities and each other An employee newsletter can serve to

Inform employees about the utility's activities and decisions, and explain how these topics affect employees,
Educate employees about each other's jobs,
Build morale by helping employees feel informed and a part of an organization,
Share employees' personal news (with approval) and announce birthdays,
Introduce new employees,
Recruit volunteers for community projects,
Recognize retiring employees, employee awards, promotions, and transfers,
Provide puzzles, trivia, helpful hints and humor

How Often

Decide how frequently you would like to produce a newsletter--monthly, bimonthly, quarterly--and then be consistent The frequency of the newsletter will effect which topics can be covered well, i e quarterly publications cannot report much news when it is timely and should probably provide more feature, background, and human interest pieces

Masthead

Invent a short title and perhaps a logo for the newsletter which captures the goal of the publication and gives it some personality You can create your masthead using in-house with graphics and fonts, solicit employee-made designs and titles, or hire a graphic designer

For an affordable in-house employee newsletter, consider having the masthead professionally preprinted on newsletter paper in bulk Then photocopy a master text and photographs onto the ready-made sheets Another option is to save the masthead as a template on disk and print it out as a part of each newsletter master for photocopying

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Production

A newsletter can be produced entirely in-house or can involve outside printers, copiers and designers, depending on your time, staffing and budget limits Newsletter planning, writing, and production can be the job of one or several employees A group of employees could meet regularly to brainstorm article topics Individual issues should be planned in advance and plans cleared with management Check in with department managers for news-worthy or discussion-worthy topics Staff or board meeting agendas can be a good source of topics, too Other employees can also be encouraged to contribute news, article suggestions, and written articles to be edited

A desktop publishing software program works well for in-house newsletter layout A newsletter can be done just with a word processing program, but layout options are limited With either software, a template with margins and room for the masthead should be set up to give the newsletter a consistent look If the newsletter will be professionally printed, desktop published issues can be sent to the printer on disk Newsletter text can be submitted on disk to the printer for layout, but this method can be more costly Talk with your printer to see how much preparation they will do for what price For photocopied newsletters, a paste-up master can also be used

Photographs

Photographs, especially of people, can add a great deal of interest to a newsletter Photos photocopy best and can be sized to fit the available spaces in the newsletter if they are first half-toned by a print shop Photographs should be submitted for half-toning with crop lines indicated (do not cut up the prints) Waxed half-tones can be adhered to newsletter masters for photocopying If the newsletter is being professionally printed, the printer will probably handle all photo preparation Provide them with the original prints and sized boxes for the photos in the layout Depending on your budget, consider purchasing software to scan and digitize photographs Digitized photos can be placed as images directly into text where they can be sized, cropped and altered

Duplication

Since customer newsletters usually involve several thousands of copies, duplication and folding is best handled by a professional printer or copy shop These businesses will discuss paper and printing options with you and will give estimates Since employee newsletters require far fewer copies, they can be duplicated easily in-house

Educating the Community about Biosolids

A Guide for Building Public Acceptance

This is a "how-to" guide for initiating a community outreach program based on the research and recommendations of an independent communications firm It's part of a package developed by the Water Environment Federation through a cooperative agreement with the U S Environmental Protection Agency to promote public acceptance of biosolids Successful biosolids management programs depend on public acceptance

Many thanks to the U S EPA Office of Water and the WEF Biosolids Public Acceptance Task Force, for their support of this project

Know the Objectives

The ultimate objective is to improve the environment and protect human health by promoting beneficial use of biosolids Specific program objectives are to

Enhance public perception and understanding of biosolids recycling in order to gain broad general acceptance of biosolids use,
Help advance the goals of the U S EPA in fostering beneficial use, and
Support municipal management programs of biosolids

Step 1: Add any other area-specific objective as appropriate

Understand the Themes

The nature of the product itself is a key contributor to resistance about biosolids land application That's why communications should focus around the process, not the product, wherever possible Note again, however, that biosolids is defined as "the primarily organic product, produced by the wastewater treatment process, that can be beneficially recycled " Although the product must be discussed and defined, the thrust of all communications should quickly move toward recycling and underscore how beneficial it is to the environment

"BIOSOLIDS RECYCLING BENEFICIAL TECHNOLOGY FOR A BETTER ENVIRONMENT", the main theme used throughout the WEF program, should be incorporated into any collateral materials or communications as appropriate

This theme weaves in a number of individual messages that are reinforced through the WEF materials These include

Recycling Has many positive connotations for the audiences we want to reach as well as the general public and should be paired with biosolids as much as possible

Beneficial Refers positively to biosolids use and counters concerns about safety

Technology Emphasizes the process and that the product is different from wastewater solids, which are untreated

Better environment Identifies the process with the drive to be green Ties into the idea that improved water quality results in more biosolids, which are best handled through recycling

Step 2 Make sure that all program supporters understand the biosolids definition and themes Start using the term biosolids in correspondance, communications, signage, wherever appropriate

Identify the Target Audiences

For maximum use of limited resources, it's important to focus communications efforts on gatekeepers, the individuals and organizations who are asked by the public for their opinion on an issue because of their expertise, authority or position Gatekeepers can be teachers, doctors, community leaders, elected and appointed officials, the media, scientists and other knowledgeable professionals Gatekeeper audiences for any biosolids communications program should include

Academics/agricultural scientists
Water quality professionals
Public health officials
Agricultural representatives
Environmentalists
Regulatory officials
Media

These audiences were selected for their ability to support the message tracks identified in the theme For example, public health officials lend credibility to messages concerning health, agricultural experts can address questions abut scientific research, and environmentalists bring support for environmental messages

Step 3 Identify at least three organizations with individual contact names from each of the audiences above and develop a target list of contacts. When in doubt, it's best to direct communication to the top person in each local office

Tailor Messages for the Audience

Whether communicating via phone, letter, or in person, it is vital to understand and address the concerns of the audience For the biosolids program, there are three main message tracks, already encompassed in the theme, which can be adapted for different audiences and used with them Information sheets that address each of these tracks are available through WEF

These message tracks and supporting points for use in additional communications are

Message Track #1 (Environmental)

Biosolids recycling benefits the environment.

- Involves recycling and reuse, a new technology that improves on an old process
- Provides for use of a valuable resource rather than putting it in a landfill
- Supports improved water quality, the byproduct of water treatment can be reused
- Biosolids is not "old sludge " It is a treated product that is carefully monitored

Message Track #2 (Agricultural)

Biosolids recycling on land helps farmers and benefits crops.

- Biosolids recycling, an old process using new technology, is used by farmers everywhere, including right here in_____
- Biosolids recycling adds valuable nutrients to agricultural land, some have called it a "vitamin pill for the earth "

Message Track #3 (Health and safety)

Biosolids have been thoroughly researched by top scientists at the leading scientific institutions and found to be safe and beneficial to the environment

- Recent studies show that biosolids recycling has no adverse impact on the environment or human health
- Top officials at all levels of government, includng public health department, state and local agencies that monitor environmental quality, and even the U S EPA agree that biosolids recycling is safe
- U S EPA regulations mandate strict monitoring of the quality of biosolids before it is recycled and set strict criteria for what is in biosolids The regulations also include rigorous guidelines for applying biosolids to different kinds of land and even to where it can be applied within the land's boundaries

Step 4· Research the mission and membership (where applicable) of the audiences targeted Determine which message track is most appropriate for each group

Running the Program

Once the initial four steps have been accomplished, contacts can be made as frequently as resources permit, however a timeframe for completion of the program should be established A nine-month timeframe would be realistic for the contacts identified in Step 3 Ideally, the goal is to build relationships, alliances and support among the targeted audiences For each contact (except media*), the basic process is to

- Call or send a personalized letter describing program, why it's important to the contact person, and ask for a meeting with (ideally) an opportunity to present video
- Assemble materials and talking points (Step 4) that are appropriate for audience
- After the meeting, be sure to ask about additional presentation or exhibit opportunities and follow up accordingly
- Add to list for periodic mailings of press clippings or releases

When contacting local papers, ask for an editorial briefing For meetings with media, biosolids messages should be tied to local biosolids management issues, programs or breaking news stories The best spokesperson should be a trained WEF spokesperson or someone with media experience Contact WEF's Public Information Department to find out about trained spokespersons who may be available* ***Again, the goal is not to defend the product, which is already proven and tested, the goal is to show how beneficial the product is for the environment.*

EARTH DAY IS A GOOD TIME TO CONTACT LOCAL MEDIA WITH A GREAT RECYCLING STORY!

Plan to Evaluate

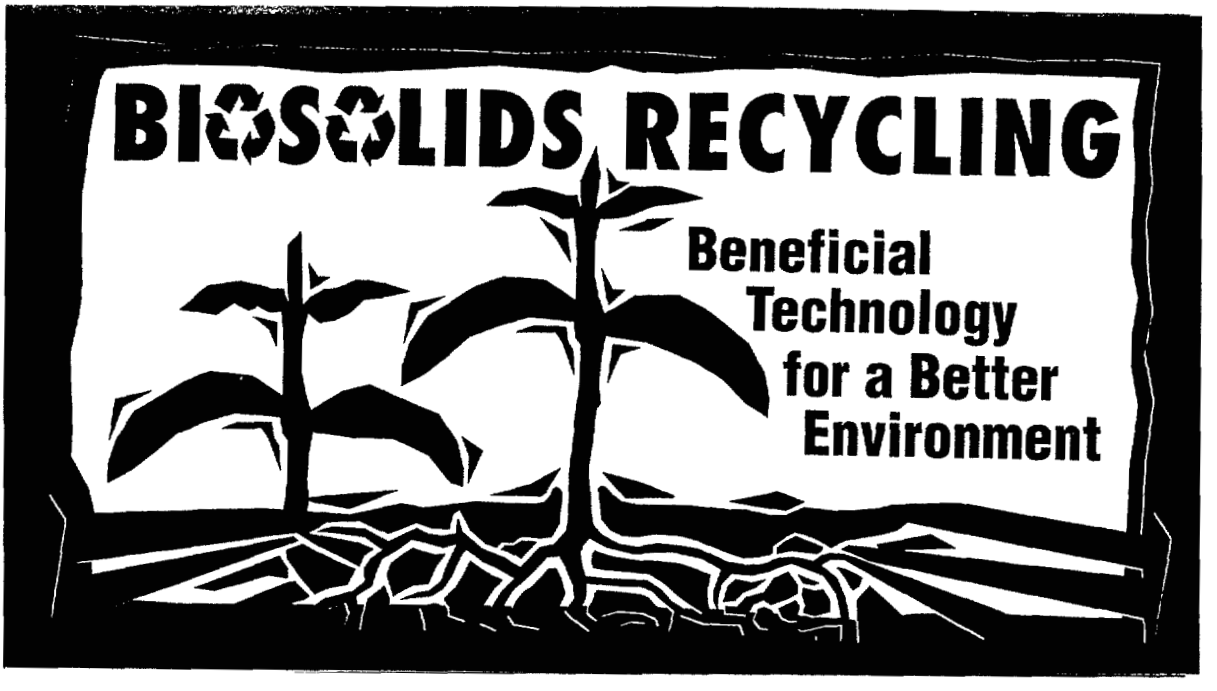
There are several ways to evaluate program success In general, assess outcome of communications with contact list at the end of the nine-month program period Are there allies and supporters in every group identified? Are they using accurate information/turning to knowledgable sources for information? Some other methods for evaluation include

- Track newspaper clips and tv and radio broadcast coverage in terms of amount and quality (is coverage positive or negative, has it improved during your campaign?)

- Ask members of target audiences to review any new material developed
- Survey audiences after presentations
- Monitor number of complaints in a given area
- Monitor frequency of application denials to apply biosolids
- Watch for increased requests by farmers for biosolids application

Step 5: Select and organize evaluation efforts.

Contact WEF with your results and any ideas for improving campaign effectiveness



WEF bill stuffer cover using campaign theme

Guide to Working with the Media

by Stephan Frank, APR, Metro Wastewater Reclamation District, Rocky Mountain Water Environment Association

Why be Concerned with the Media?

"And while the media are not very effective at telling people what to think, they are very effective at telling people what to think about "

It's 2 p m You've finished your last walkaround for the afternoon You're starting to feel relaxed and mellow as you finish the day's paperwork

The phone rings It's someone from the assignment desk at Channel 5 A reporter is on her way out to your plant The guy on the phone from the TV station says the neighbor who lives next to your current land application site has been complaining about odors, diseases, and other things

The reporter has just been out at your site and will be at your plant with a camera truck in 30 minutes It's the kind of truck with a microwave antenna so they can transmit her interview with you directly to the station

The woman who lives next to your application site has told the reporter that you are dumping "sewage" next to her property She says your sewage has contaminated her well with disease-causing viruses and heavy metals, is running off into her stock watering pond, is polluting her air with odors, and is making her cows miscarry

What do you do? Do you have to talk to this reporter? Should you talk to her? If you talk to her, what do you tell her? If you pay attention to this section, you'll know

Guide to Working with the Media

This Guide to Working with the Media" will help you prepare for an event that may never happen If you do meet the media, especially under a crisis or potentially bad news condition, it will probably be stressful But it can be rewarding as well

The late pop artist Andy Warhol said more than 20 years ago that everyone would be famous for 15 minutes during their lifetime He probably made this statement after observing how pervasive the media were becoming

In modern society, media have a great deal of power This power isn't related to what media can do directly, but to the media's ability to influence others to do or not do something—i e , to their ability to produce effects in others And while the media are not very effective at telling people what to think, they are very effective at telling people what to think about

Whether we like it or not, or whether we agree with the things the media choose to cover or ignore and how they do this, the media are a force to be reckoned with This guide will help you be ready when the media's momentary spotlight of fame gets pointed in your direction

About the Media

Why are the media like they are? Why do they seem to focus on what's wrong in society and ignore what's working? Let's find out

Reasons why the media are like they are has to do with how America's media came into being and how they got where they are today Colonial newspapers carried two basic things gossip from home and advertising In fact, the early Colonial publishers were mostly interested in distributing commercial notices such as ships' arrivals and the goods they carried They inserted what we now call "editorial matter" or news as filler material between the commercial notices

"Frequently—and not without some merit—they argue that their right to say what they think needs to be said relates strongly to your freedom to do the same thing "

Colonial newspapers and pamphleteers were influential in fomenting the Revolution They carried news of the growing discontent with English rule from one end of the Colonial seaboard to another, and into the frontier

When the Revolution was won and the Constitution was written, the First Amendment—the first item in the Bill of Rights—included guarantees of freedom of speech and freedom of the press

Freedom of the Press

Through the years, newspaper owners (and owners of other, more modern forms of media such as radio and television) have jealously guarded and protected the freedom of the press Frequently—and not without some merit—they argue that their right to say what they think needs to be said relates strongly to your freedom to do the same thing

Freedom of the press didn't make as much difference in 19th Century America as it does now That's because literacy didn't become widespread until late in the 19th Century, so there weren't that many potential readers (customers) for newspapers in earlier years The late 19th Century is when the so-called "Yellow Journalism" era of journalism was born Newspaper barons fought circulation wars Their ammunition was stories about murders and official misbehavior—things that would appeal to the masses They wanted readers, lots of them, and they catered to the lowest common denominator of the public's interests and tastes to get them

Central to what makes almost any story interesting was—and is—the presence of drama and conflict or controversy Also important are people whose names readers would know, the involvement of

large amounts of money, the timeliness of the event, whether public health and/or safety are involved, and whether anything ironic, "odd," unusual, or out of the ordinary has happened

Journalism schools were born in the early years of the 20th Century These "j-schools" taught would-be journalists the "formulas" for stories, i e , they taught wanna-be journalists how to recognize a story and how to write it so it would have the greatest impact J-schools also taught the budding journalists that they, with the special freedom of the press protection provided to them by the Constitution, are the public's surrogate or watchdog in high places—especially in government

When radio came on the scene in the late 1920s and early 1930s, it added much greater immediacy to the news Immediacy translates into drama Radio brought with it the ability to take listeners to where great events were happening It developed this special dimension into a high art form during World War II, when journalists such as Edward R Murrow broadcast live to Americans back home during the bombing of London

Television joined the media scene in the early 1950s It added pictures to the party, now, people could see events that had only been reported to them before The Vietnam War was the great development and experimentation period for this form It brought a war that was half a world away into people's homes every night with dramatic pictures and nearly real-time, live-action pictures

The 100-hour Gulf War in early 1991 added still more immediacy to the sights, sounds, drama, and conflict of the Vietnam War coverage model With satellite technology, media now can not only take us to the war, but can take us inside it where the bombs are falling as we watch from the comfort of our family rooms

'Governmental Incompetence' One Word

So what does all this have to do with you?

The definition that reporters and editors have in their heads of what a story is drives their perception of you and their actions in covering what they define to be a story involving you
They look for drama and conflict They also look for misuse or abuse of power They look for governmental incompetence In fact, some journalists think "governmental incompetence" is a single word, one part is always found next to the other

Other things that drive their actions are about the same things that drive our own actions They want to look good to their bosses and their peers in their industry They want to get ahead They want to do a good job because they are as dedicated to their craft as you are to yours They believe their calling is a noble one and that what they do helps people live their lives better

Bottom line Most of the media people you will deal with are not out to get you or your organization You or your organization are

just a story to them most of the time Tomorrow someone else or someone else's organization will be the news

Also, the media industry is intensely competitive What journalists produce is "editorial content " They try to make it interesting and exciting so they can attract readers, listeners, and viewers

Newspaper owners and radio and TV station owners, however, sell readers/listeners/viewers to advertisers Your story is the bait for that hook Your story is what they use to attract the readers/listeners/viewers they sell to their advertisers

Knowing this, you should approach any encounter with the media unemotionally and professionally You can't change the why or how of the media's operations Instead, your job is to use this encounter to help you get your organization's positive message(s) across with the least possible distortion

All encounters with media are not necessarily confrontational Community media like the weekly newspapers that serve suburbs and many small towns often view their mission as informing the people they serve about important happenings in their community

To the extent you help community media people do their job by being clear, brief, and direct, you help yourself and your organization You may also get positive coverage of your accomplishments

"To the extent you help community media people do their job by being clear, brief, and direct, you help yourself and your organization."

Preparing to Meet the Media

What you do before you meet the media is as important—maybe more important—as what you do when you meet them Often, it's the preparatory activities that will determine the success or failure of your media interview By being prepared, you'll not only be more confident and comfortable, you'll be able to get your story across to the audience

Refusals to Respond and Deadlines

While you always have the right to refuse to be interviewed, there are certain inherent disadvantages to taking this position First, it's likely the story will be aired or published whether or not you cooperate So it's usually better to say something to try to mitigate the damage (if it's that kind of story)

Second, in the rush by reporters and editors to get the story before their competition gets it, your reasons for not playing ball aren't as important to them as their need to win Remember, they're fighting for viewers and readers

And third, as a public employee (or a consultant working on a publicly funded job), the media expect you to talk to them The media see themselves as society's watchdogs—the public's surrogate at city hall If you are reluctant to talk, they often see your refusal as prima facie evidence that you are incompetent or wrong or both

"If you figure to play with a reporter's head by withholding information until just before deadline, be aware that your tactic can blow up in your face."

Now, deadlines For the media, a deadline means just that After deadline time, what they've written (or not written) becomes cast in concrete Ignore the deadline that was constantly being pushed back in the recent film The Paper Unless you're involved in a crisis with major public health/safety implications, what you told or didn't tell a reporter before deadline is what shows up in tomorrow's paper or on the 10 o'clock news tonight

If you figure to play with a reporter's head by withholding information until just before deadline, be aware that your tactic can blow up in your face Your response could get left out altogether, or it could get condensed to meaninglessness because the story is otherwise written and the reporter/editor feels there isn't room (or time) to change things around just because you finally decided to call back

Some Preparatory Suggestions

1 Find out who the reporter is and why you were asked for the interview
2 Establish ground rules on what will be covered and how much time will be allowed for the interview
3 Anticipate questions and think through your responses

4 Do your homework Make certain you are familiar with the facts supporting your position and that they're up-to-date Even if you're the expert, a quick brush-up will help
5 Know the key points you want to make You might want to type them up on a card and put the card in a prominent place on your desk Before the interview, review them often Are they honest, meaningful, and to the point?
6 Don't try to memorize a statement! You could come across as stilted and pompous
7 Question your own position Have your Public Information Officer or other experts in your organization play devil's advocate
8 Read the morning paper and/or listen to the radio/TV news before your interview in case a late-breaking news story should affect your organization

Specific Suggestions If You're Going on Radio or Television

- Know the format and theme of the show It may be helpful to watch or listen to the show several times before you go on it
- Find out if anyone else will be on the air or in the studio with you Is this someone who has or is likely to have an opposite or antagonistic point of view to yours?
- Arrive early to check the setting and your appearance (if you're to be on TV)
- When you arrive, talk to the hosts or questioners Offer subjects or points you'd like to discuss Even better, write three questions you would like them to ask on a 3x5 card and give it to them (but make sure you have prepared answers!) Ask them what they'll be covering

Media Interview Preparation

Answer These Questions First

INTERVIEWER: _____

Interviewer's credentials checked? Y ____ N____

Station/Publication _____

Phone No _____

Interview Time & Date _____

Date & Time of Publication/Airing _____

Radio/TV	Print Interview
___ Live Broadcast	___ To Publish in Entirety?
___ Taped for Uncut Airplay	___ For Quotes?
___ Taped for Excerpts	___ Photos?

DESIRED TOPIC_____

Level of Detail _____

THREE "MUST AIR" POINTS

1 _____

2 _____

3 _____

THREE MOST CONTROVERSIAL OR NEGATIVE POINTS

Issue 1 _____

Response _____

Issue 2 _____

Response _____

Issue 3 _____

Response _____

Some Transition Statements
"Just as important is "
"We may be overlooking the fact that "
"I am frequently asked about "
"I did want to make a point about "
"The basic issue is this "

You're On!

This is your chance to tell your story accurately and forcefully Many people are intimidated by all the blinding lights of TV and the ominous, expressionless, one-eyed cameras staring directly at them There's no need for anxiety Think of the cameras and the microphones as your friends, and imagine that you are visiting your friends in their living room because that's where you will be seen or heard—on the television set in someone's living room or on a car radio If you've prepared well, all you will have to do is take advantage of a few techniques outlined below to help you come across to the audience in a forceful yet friendly way

Appearance

- Check your appearance Be vain Remember, you're representing your organization Don't come off looking like the Ed Norton character played by Art Carney in the old "Honeymooners" TV series
- Ask for makeup to help control perspiration and to avoid glare from the lights If you have a heavy beard, shave before you go to the studio (Remember Nixon's 5 o'clock shadow in the Nixon-Kennedy debate? It made Nixon look "untrustworthy ")
- Don't wear sunglasses outdoors, or tinted or photogray glasses indoors—even if the lights hurt your eyes
- If seated, keep your suit coat or sport coat buttoned To remove wrinkles in the front, pull the jacket down in the rear

Clothing Tips

- Men should wear medium-tone gray, blue or brown suits Women should wear solid, medium-color dresses Avoid very light or very dark dresses, conservative, street-length dresses or suits are preferred
- Wear light-colored shirts Avoid whites, however, since it is difficult for the technical crew to adjust contrasts
- Avoid bow ties They have a tendency to bob when you are talking and make you look like Don Knotts
- Wear over-the-calf socks That way, if you cross your legs, your shins won't outshine your shoes And shine your shoes and make sure your shoe soles do not have any holes or worn spots
- Keep jewelry simple That sparkling ring may look terrific, but on television it's going to detract Men Don't wear pinkie rings

Actions

- In stand-up interviews, stand straight Don't lean into the microphone (you're not trying to be a rock star) and don't rock back and forth
- Your hands should be relaxed at your side at the beginning of the interview
- If sitting, sit with the base of your spine back on the chair and lean slightly forward This body language says, "I'm interested and involved in what's going on here "
- Warmth, friendliness, and sincerity are important to the interview Key tools are smiles, gestures, and pauses--at appropriate times But don't smile at serious matters or out of discomfort And don't try to make or tell jokes unless you're a practiced comedian
- Don't take the questioner's attitude, even on hostile questions Re-
  member, the viewer or listener at home may be on your side
- Don't distract your home audience Don't pull up your socks, fiddle with your ring, clean your fingernails, click a ballpoint pen in and out, or look at your watch hoping you're almost finished
- Concentrate on the interviewer—and listen Avoid looking around the room, it will give you the "darting eye" look of a sinister villain
- Keep your head up so you won't feel (or look) guilty This is especially important if you wear glasses with thick rims If the audience can't see your eyes, they may not trust you! And building trust is why you're doing this
- Keep your hands off the mike
- If you have a real physical reason for preferring one profile or side, such as a hearing problem, make this known to the program staff ahead of time
- If possible, don't sit between two questioners After all, it's not an inquisition, and the shifting of your head back and forth will make you feel and look guilty, or like you're following a ping-pong match
- After digesting all of this—be yourself! Concentrate on how to get ideas across—not just words

Guidelines for Releasing Information

The first rule in releasing information is to listen to the question HEAR the question The word "hear" reminds you how to respond to the question Honestly, Ethically, Accurately, and Responsively

- *Honestly* Tell the truth If you don't know the answer, say so If there is some reason you can't release the answer, explain why Don't speculate
- *Ethically* Don't play games with a reporter Don't withhold significant information just because the reporter failed to ask exactly the right question
- *Accurately* Don't speculate, don't guess
- *Responsively* Being responsible means answering the question or explaining why the question cannot be answered Don't be evasive, but answer the questions following this APP formula
    - Accuracy Is the answer both accurate and honest?
    - Propriety Does the answer fall within commonly accepted bounds of propriety?
    - Policy Is there policy guidance from my organization on answering this type of question?

U S government agencies must follow the Freedom of Information Act for guidance on information that must be released But you, as a local government entity, do not have to follow this law However, as a matter of policy, your organization should consider exempting the following categories from routine release

- *Internal Agency Rules* This exemption refers to those reports that are related solely to the internal personnel rules and practices of an agency This provision is designed to relieve the government of the burden of maintaining for public inspection routine materials that are more or less trivial, such as employee parking rules or agency cafeteria regulations The agency doesn't have to release this information, but it may
- *Material Exempt by Other Statute*
- *Trade Secrets* This exemption is designed to protect trade secrets such as customer lists, secret formulae, and sensitive internal financial information which is provided to your agency by individuals or private business firms
- *Inter-agency or Intra-agency Memoranda or Letters* This is designed to protect working papers, studies, and reports within an agency or circulated among governmental personnel as the basis for a final decision by the agency The agency doesn't have to release this information, but it may

- *Personnel and Medical Files* These are personnel matters and should not routinely be released
- *Law Enforcement Information* This category covers that information which would jeopardize ongoing investigations Infor- mation may be withheld if its release would
  - Interfere with law enforcement proceedings
  - Deprive a person of a fair trial
  - Constitute an unwarranted invasion of privacy
  - Disclose the identity of a confidential source
  - Disclose investigative techniques
  - Endanger the life or safety of a law enforcement official

Guidance on Releasing Personal Information

- *Decedents* The definition of the term "individual" in the federal Privacy Act clearly implies that privacy applies only to living persons This is good guidance for you, too But DO NOT release information about an employee who has just been injured or killed on the job until his/her next of kin have been notified in person by someone from your agency This is both common sense and common courtesy
- *Age (Date of Birth)* Releasable if it pertains to the story
- *Home of Record/Present Address* There's no general rule for the disclosure of an individual's home of record However, home of record may usually be released if no street address is given Whenever feasible, the desires of the individual or next-of-kin with regard to disclosure of the home of record should be considered
- *Marital Status/Dependents* The fact that an individual is married (or not married) is disclosable Names, ages, and gender of dependents may also be released if they pertain to a story
- *Awards and Decorations/ Citations* Releasable
- *Education/Schooling/Specialty* Releasable
- *Race/Ethnic Background* In most cases, a person's race/ethnic background should not be released To release information from your organization's records regarding race may constitute an unwarranted invasion of privacy On occasion, a specific request may be made for such information in circumstances in which it is relevant, e g , a racially-oriented protest or altercation Where the fact of an individual's race is relevant in providing essential facts to the press, it may be released
- *Employment Status* Whether a person is currently an employee or was formerly an employee is releasable If a former employee, the reason for the employee's leaving should not be released—only the date, if relevant, and job title, if it is relevant

Meeting the Media: The Interview

When you know and follow the rules of the game, you can communicate your story more effectively and truthfully Too many times, spokesmen meeting today's news media feel they are dealing with built-in bias if the reporter interjects any penetrating questions And the in-your-face style of some reporters and TV/radio hosts can get in the way, too

Just remember—when a reporter asks questions, he's not working for or against you He/she is working for the readers, viewers, listeners, and his/her editor Most frequently, he/she doesn't know anything about the subject until the interview begins

Too often the person being interviewed feels at a disadvantage when the reporter is skilled at asking controversial or provocative questions to get interesting or controversial answers This is a natural feeling But a spokesman who is frightened or wary of such questions comes across poorly in an interview

Presumably, the spokesman in any interview is there because of his/her know-how or expertise But since the skills required to be a good manager are not always the same as those required to work well with media, here are a few simple pointers

1 Be honest, be candid, and don't evade If a question is one you cannot answer, say so and say why It's O K not to be able to answer some questions

2 Don't assume antagonism exists if reporters try to plow new ground Reporters in today's newspapers, radio, and television excel in their ability to unearth something interesting, or beyond the cut-and-tried news release The best-read, best-watched and listened-to media reporters are the ones with surpassing talent to find something informative, interesting, and stimulating Your story reaches more people via their talent, so try to cooperate

3 Speak in terms of them, not from the internal perspective of your organization Try to talk in terms of people, not programs or statistics A single human "case history" or example tells more about what you do than a 100-page annual report because it humanizes the subject

4 Don't say it if you don't want to be quoted If you do not want a statement quoted, don't say it That includes "off the record" statements And don't say, "Now don't quote me on this, but " Remember Connie Chung and Newt's mom

5 Don't argue or engage in battle if the questions cause irritation or frustration Remember, the reporter, not the subject being

interviewed, has the last say (Old Public Relations Proverb says Never argue with somebody who buys newspaper ink by the barrel or who owns the TV station Reason You will lose!)

6 Don't repeat offensive phrases or words contained in a question you do not like For instance, if a question contains a word or phrase you consider inaccurate or offensive, do not repeat it in your answer, even to refute or deny it It's easy for a skilled reporter/interviewer to put words in your mouth in order to get colorful or controversial responses Repeating an inaccurate or offensive phrase or question gives it credibility, a life of its own

7 Don't answer "When did you stop beating your wife"-type questions directly Instead, begin by saying that the premise of the question is incorrect Rephrase the question into the one you want to answer and then answer it

8 Answer directly to a direct question A reporter who asks a direct question is entitled to a direct answer If you don't know the answer, you can simply say, "I don't know, but I will find out " And then do it

9 Tell the truth, even if it hurts Don't exaggerate the facts, and never, never, never lie to the media If there is a justified reason for asking special handling of information, state it before the interview (if possible) and let the media share as much information as possible Social agencies do not have a monopoly on the milk of human kindness or social responsibility Informed media will strive in almost every instance to avoid reporting that which causes unnecessary hurt or embarrassment to people with problems

10 Be relaxed, confident You are the expert on your subject

11 Avoid jargon, acronyms, and technical terms For example, don't talk about how many pounds of N per ton your biosolids contain, instead, talk about "nitrogen "

12 Keep your answers short! The average "sound bite" (excerpt) now is only about 8 seconds—much less than the 20 or 30 seconds it used to be Give your "headline" first and then support it Make the interviewer keep the conversation going, and don't just give a "yes" or "no "

13 Be positive in your answers!

14 Don't be curt (even with the dumbest question)

15 Don't restate the question in total or begin with gratuitous remarks such as, "I'm glad you asked that " Sometimes, however, you may wish to partially restate the question just to clarify what you are answering You can also say something like "What I think you're trying to get at is this ," and then state the question the way you want to answer it

16 Take time to think about your answer Not only do rapid responses appear rehearsed, but many officials wish they had thought about an answer before answering

17 Answer only one question at a time If there are multiple questions or multiple parts to the question, answer the one you want to answer first and then ask what the other questions were, or take the next one/part you want to answer Interviewers almost never come back to pick up the part you ignored

18 Use your key points when you have a chance You can use one question as a springboard to your points by building on your answer

19 Admit it if you're not sure of the facts, and promise to get them (Then be sure to follow up)

20 Never say "no comment " Say it another way, but don't say "no comment " (See "Nifty Ways to Say No Comment ")

21 Discuss only those activities and policies under the control of your organization or area of responsibility Don't discuss hypothetical situations

22 Don't be defensive—take the opportunity and use it to your benefit

23 Don't repeat a reporter's terminology or accept his "facts and figures" as truth unless you know they're accurate Don't let reporters put words in your mouth or ideas in the minds of the audience

24 Never lie to a reporter You will get yourself in trouble when you are caught, you will lessen your credibility as a spokesperson, and you will lessen the credibility of your organization Your credibility is the single most precious thing you have If you lose it by lying, you may never get it back

25 If a story comes out wrong, try to make a balanced judgment If the inaccuracy is minor and unintentional, don't make a federal case out of it Reporters try to be accurate but mistakes are made, names get misspelled, titles get garbled, and quotes get shortened or altered If it is a glaring error, or if it is something that must be corrected, first try to discuss it with the reporter Don't go over his/her head to the boss unless you cannot handle it any other way

26 Don't demand to see the interview, show, or article in advance of airing or publication You can ask, but they aren't under any obligation to give you an advance copy And, by asking, you demonstrate your lack of understanding of what reporters commonly understand the ground rules to be

27 Be available for follow-up Reporters often will have points they may want clarified or need additional information on Reporters' deadlines are inflexible Try to help them, and you will often be rewarded

Nifty Ways to Say 'No Comment'

Sometimes you really need to say "no comment," but you don't want to utter those two particular words Here are some alternatives

1 I can't answer that It's still being investigated/evaluated
2 It would be inappropriate of me to comment on any aspect of the case while the investigation is still in progress
3 Because this matter is still under investigation, we cannot provide additional details
4 So that the legal rights of the individual are properly protected, we cannot provide any more information than has already been released
5 It's still too early to determine what the next step/outcome will be
6 I wouldn't want to speculate on the outcome of any legal processes that are now underway
7 I'm sorry, but that's all we can provide at this time
8 There are no additional details available
9 We can't predict any outcomes or speculate on any course of action that may occur at a later date
10 We have answered all we can answer I'm sorry, but there's no more information available right now
11 Should additional information be made available, I will contact you as soon as possible (Get name, affiliation, telephone number, deadlines)
12 You've asked a very good and important question However, I cannot provide an answer at this time because the matter is still in litigation/under investigation
13 For me to guess/speculate/predict what is going to happen would simply be inappropriate for me to do at this time
14 I wouldn't want to speculate on that motive/methods used/ outcome
15 There's just nothing else we can add at this time

Questioning Techniques

With proper preparation on your part, most interviews will be positive, rewarding experiences Ninety percent of the questions are likely to be non-threatening Be careful though Reporters are looking for drama and conflict—and memorable quotes—to bring a story to life They are also looking for the facts, for your side of what has happened

It's worth saying here that the most common type of research done by reporters is interviewing In a controversial matter, especially, reporters often solve the dilemma of which "facts" are right by quoting some facts from Side A and some other facts from

Side B This relieves them of having to understand everything—especially technical issues that scientists can't agree on—while being fair, which they define as having acknowledged that there are two (or more) sides Having said that there are two sides, and having reported what each said, they have, in their own minds, been fair and ethical Facts are thus defined as what someone said rather than a phenomenon that has been demonstrated scientifically

Four Kinds of Questions

You'll find four basic kinds of questions Focus, Avoidance, Control, and Factual

1 *Focus questions* Those that give you the opportunity to expand upon a point by going into detail or by giving an illustration from your point of view
2 *Avoidance questions* Those that you would just as soon not have to answer, probably because it puts you or your organization in a bad light Acknowledge the question by repeating the key part in a positive way and then bridge to the point you want to make
3 *Control questions* Those that you would like to pass back to the interviewer You respond to these by making a positive point about the thrust of the question and by not dealing with the question itself
4 *Factual questions* Those that seem relatively simple, they just ask for factual data like when was the plant built or how many employees you have

Techniques to Look For

When reporters try one of the techniques that predictably should evoke a negative response, how should you react? By giving them something they are not prepared for a calm, cooperative, and courteous attitude When a reporter sets you up to strike back, strike instead only at the issue You should always try to address the question, not the questioner Getting you angry on camera is dramatic, it makes great theater, and it's what reporters want Don't give it to 'em

Keep in mind that most of the techniques listed below are infrequently used and that most interviews will be pleasant experiences for you Interviewers usually feel these techniques become necessary when a guest is ill-prepared or defensive in either attitude or answers It's like the old saying about dogs being able to sense fear Be confident Don't let 'em see fear

Needling

Example: Come on! You don't really expect us to believe it takes 59 board members to make policy on how sewage is going to be treated There's almost that many people in the state legislature

Response: Stick by your answer Don't back off or equivocate Explain that the number is determined by a formula established by state law, and that the board members represent ratepayers served by your organization

False Facts

Example: Since working at the wastewater plant is far less demanding and much safer than jobs like police and firefighter, is it fair that you have the same pay scale as them?

Response: Correct the reporter but be polite, then move to your positive point The positive point could be something like The work your people do affects the health and safety of a large number of people, the working conditions aren't as easy as most people would think, and good pay is necessary to attract and keep properly trained and qualified operators and support people

Reinterpretation of Your Response

Example: So, what you're saying is that you bought equipment that wasn't suited to the job, and now that it doesn't work, you want the taxpayers to buy you something else

Response: Avoid repeating loaded words You could say something like, "The equipment we purchased five years ago was right for the conditions that existed when we bought it, but those conditions have changed We now have much higher flows and loadings because of recent growth (or a new set of state/federal regulations to deal with), and the equipment just won't keep up with the requirements "

Putting Words in Your Mouth

Example: So, contrary to all your public crying, the fact is you wastewater treatment people are overpaid and underworked

Response: Don't argue Instead say, "I wouldn't say that" or "The facts simply don't support such an assertion," and move on to the positive point you want to make Use facts to counter the false assertion

False Assumption or Conclusions

Example: So basically what you're saying is that the wastewater treatment plant is to blame for contamination of the town's drinking water

Response: Identify the technique for what it is Say, "Well, I wouldn't agree with your conclusion Here's what the facts show ," and provide the facts

Hypothetical Question

Example: What if the wastewater treatment department's budget were cut in half? Would our level of treatment really change or would you merely have to scrap your "frill" programs such as trying to make people like sewer sludge and attending expensive out-of-town conferences?

Response: It's best to avoid answering hypothetical questions because they frequently put you in a box Instead of answering this question as asked, you can say, "That is a hypothetical question, and I can't see into the future " You could add something like, "I can say, however, that properly informing people about biosolids could save the city thousands of dollars a year and provide a service to farmers It's also the environmentally responsible thing to do "

Speed-up or Rapid-Fire Series of Questions (a lot of questions in a row)

Response: Slow your pace down and take the steam away from the reporter Pick one of the several questions the interviewer has just asked and answer it slowly and thoughtfully What you want to do is change the pace and take some control away from the questioner

Interviewer Stalls

Response Use that free time to make as many positive points that you can until the reporter takes control of the interview once more

One, Two, Three, Kick

Response: When you are asked a series of questions and you know the reporter is baiting you, on the third question make a long (30 to 40 second) response Take the pacing away from the reporter

Bill of Rights

for Television Interviewees*

In interviews of a spontaneous nature
You have the right

1 To know who is interviewing you and whom they represent
2 To have total agreement by both parties to the ground rules
3 To be treated courteously The questions can be tough, but the reporter's demeanor should not be abusive
4 To have "off-the-record" comments, if previously stated, honored (But as a rule, never say anything off-the-record Then you can never be blindsided with your own words)
5 Not to be physically threatened or impaired by hand-held lights too close or microphones shoved in your face
6 To break the interview off after a "reasonable" amount of time, but only after important questions have been answered

In pre-arranged, office or TV studio interviews
You have the right

1 To all of the above
2 To know the general subject so you have time to research it
3 To know about how long the interview will last
4 To know if there are other guests who will be appearing with you (in the studio) and what their roles will be
5 To have a public information officer or other organization representative present
6 To make your own audio or videotape of the interview (especially if it's in your office or on your plant site), or to be able to obtain a complete tape from the TV station
7 To make sure that no material is recorded by the reporter on audiotape or videotape unless you are told you are being recorded The "pre-interview discussions," talk between commercials, or after-show chit-chat cannot be used on the air unless you approve (But don't say anything during these times that you wouldn't want to be aired If it's really juicy, they'll use it)
8 To physical comfort during the filming or taping of the interview
9 To be allowed to answer without harassment or interruptions, assuming your answers are brief and to the point
10 To ignore "editorial comments" or pejorative asides by reporters or panelists
11 To have an accurate on-air introduction that will put the interview in the proper perspective
12 In the film or tape editing to have the basic intent and flavor of your answers come through
13 To have the time to get some of YOUR points across in the interview and not be expected only to answer questions obediently and obsequiously

**(The preceding section was adapted from The Executive Television Workshop)*

News Briefing or News Conference

The single most important thing to know about holding a news briefing or calling news conference is not to attempt to hold one if you don't have something really significant to say Rule of thumb Make sure you have something that ought to be said once to everyone in the interest of fairness or of the public interest

For example, calling a news conference to announce that your organization won a national award (a "routine" one like best plant of your size) from the Water Environment Federation is a non-starter Yes, the award is big news to you But it's just another award from somebody they never heard of to somebody they never heard of to most journalists

On the other hand, media representatives would probably show up for a news conference that you call an hour after a major plant disaster such as a chlorine leak This is an event that could affect the health and safety of a large number of people Neighbors and families of plant personnel will be interested So will townspeople, who will have to pay for repairs and maybe fines, and people downstream because you won't be able to disinfect your effluent

Holding a news conference or briefing is a judgment call In the case of a very major announcement or a disaster, holding a news conference or briefing keeps you from having to explain the same thing 25 times to 25 different reporters On the other hand, if you succeed in getting media to cover a non-news event, you could get negative coverage And you'll probably never get them out to the plant again for anything short of a catastrophic disaster

News Briefing/Conference Opening

- *Introduction* Name, title, and organization you represent
- *Purpose* This limits the scope of the briefing to your topic
- *Ground rules* Clearly state and explain ground rules if the reason isn't obvious If there is to be a time limit, state it at this point

Body of the Briefing

Usually organized chronologically Late-breaking news placed first if present Designed to anticipate and answer questions (who, what, when, where, why, and how) or explain why certain questions cannot be answered Deals with the "heart" of the subject Details (ages, spelling of names, hardware stats, etc) are provided in press

kit The reporter should be able to write his story based on your prepared statement

Conclusion

End the briefing or conference on a neutral or, if possible, positive note Solicit questions (See the preceding section on types of questions for ideas of how to answer them)

News Conference Tip

Conduct it in a location that is set up so you can leave when you determine it is over or at the end of the pre-stated Q-and-A period and not be trapped by cameras, lights, and microphones

News Conference Checklist

_____ Reserve room or hall Make certain the area is large enough to accommodate at least 40 people, including three television crews Area must contain electrical outlets

_____ Best times for press conference are at 10 a m or 2 p m

_____ Supply room with tables, chairs and lectern

_____ When needed, arrange to have microphone, loudspeaker and recording of speakers

_____ Room should also contain ashtrays (if smoking is allowed), water and glasses for speakers, pencils, paper, typewriters

_____ Make certain private or public phones are nearby and available to the media Tell them the procedure for placing long distance calls and who you expect to pay for them

_____ Arrange for coffee, soft drinks and rolls Even if it's all left over at the end, it's expected

_____ Arrange for parking near the news conference TV has lots of stuff!

_____ Brief participants about format and possible questions

_____ Place a banner or sign in an appropriate place (behind the speaker's head or on the front of the lectern) for visual recognition if you have a news announcement and you want people to remember who you are

_____ Consider other visuals for television (charts, graphs, large photographs, etc)

_____ Alert electricians for standby duty if television people attend conference TV people need power for lights and maybe cameras if it's to be a long conference They can work off batteries if it will be a short announcement and Q-and-A period

_____ Assign your own photographer to take pictures Do not expect the newspapers to provide you with photos It's not their job

_____ Post signs directing media to conference hall

_____ Make up press kit to include, in many cases news releases, biographical data on speakers, pictures, brochures, copies of speech, and other pertinent information

_____ Arrange for someone to register press members and to issue them press kits

_____ Alert press Time permitting, invite the press people by personal letter first, including student journalists Then, two days before the event, schedule it on the Associated Press daybooks The day before the conference, make personal phone calls reminding key media people about the conference If it's a quickie conference, use the phone Don't spill the story over the phone, just say you'll have the information they need at the time of the news conference

_____ Detail writers (or at least a stenographer) from your organization to take notes on conference in case reporters query you about the content

_____ Distribute releases, speeches, etc , to major media outlets who did not send representatives to the conference after the conference is over

_____ When appropriate, send a thank you note to the press

When You Want the News Media's Attention

Not all interviews or contacts with the media are instigated by the media Sometimes you have something you want to say or something you think the community should know about

For example, you might want to notify the community about a hearing on rates, or about a major new piece of equipment you've just put into service that helps improve the environment, or the availability of your plant for tours by schoolchildren All these and many more situations can be classified as "good news"—the kind of news the media almost never seek you out to cover The following tips can help you get the media to pay attention to your good news

How to Identify 'News'

In its very simplest form, news is what an editor says is news Profound as this statement is, it doesn't help the average person figure out how to tell whether something going on near them could be considered "news" by the local paper or TV station

Earlier, a number of things were mentioned that are common to many news stories Chief among these are drama and conflict or controversy Usually, however, municipal utility departments try to avoid conflict or controversy because they are tied to "political issues"—things the council or city manager deal with

Notwithstanding the utility department's aversion to controversy, here are some tips that can help you figure out whether something you're doing would be considered news by the media

1 Is your news timely? Reporters want stories that are happening now Old news isn't news, it's history
2 Is your news a "first"? Is it something no other WWTP in the area, state, or nation has tried or done?
3 Is it local? Local is a big factor Would your news be of interest to people outside your service area? Does it have relevance and meaning to a broad audience?
4 Is your news informative? Would readers, listeners, or viewers benefit from the knowledge? Or would they at least be interested or feel "heartwarmed"?
5 Does your story have an "angle"? Is there something more than just wastewater treatment involved? Is it good environmental news?
6 Would your news affect only people in a certain area? If so, target it to that local area Media like local angles
7 Is your news visual? If it is, maybe TV would be interested in it Or maybe it's worth a photo and caption in the newspaper

8 Is your news unusual or out of the ordinary? Is it "man bites dog" stuff, an oddity that would make people say, "That's interesting "

9 Could your news be what's called "feature" material? Feature stories have "color," human interest qualities, and a wealth of background information

10 Does your news demonstrate plant or department involvement with the community? Examples include such things as participation in Earth Day activities, employees adopting a school, giving tours to school or youth groups, and similar activities

11 Can you tie a plant activity to a calendar activity such as Clean Water Week, American Education Week, Black History Month, or something similar?

The more of these qualities your event has, the better chance you have of getting it noticed and covered by the media Typically, if you want to notify several media outlets at once of something, a news release is used How to prepare one is next

How to Write a News Release

You don't have to be the great American novelist to write a news release The purposes of a release are to let the media know that something is about to happen or has happened that is worth looking into, and, to provide them enough information from which they can write a story if they decide to do so but don't have time to come out and interview you Here are basic guidelines for how to write a news release

1 Type your story on one side of the paper only, using 81/2 x 11 paper
2 Double-space your story
3 Leave the top third of the paper blank except for information about who is sending the release, etc This is called "source information "
4 Use your official plant stationery, complete with the name of the organization, your address, and the general phone number
5 Place your source information at the top left corner of the first page, under the letterhead Include the word "Contact " followed by the writer's name Under that, place phone numbers (day and evening, note which is which) On the right, include the words "For Immediate Release," and under that put the date
6 End each page with a complete paragraph (i e , don't split a paragraph from one page to the next)
7 Make it short If a second or third page is necessary, always indicate that additional pages follow by centering the word "MORE" (in caps) at the bottom of the preceding page, below the last complete paragraph
8 At the end of the story, use one of the following sets of marks (centered) to tell the editor that it's the end ### -30- XXX
9 Leave generous margins all around
10 Send your news to the appropriate reporter by name Check to make sure he/she still works there first Avoid sending it to "Editor "
11 Consider the reporter's/newspaper's deadlines If it's a community weekly that comes out on Wednesday, the deadline is probably the Friday before Check with the publication, they'll tell you Give the staff plenty of time to respond, especially if an event for which you are trying to get coverage will occur at a time that is completely inflexible

12 Always use first and last names of people mentioned in your release Completely identify each person mentioned by title or other means

13 Go easy on the adjectives

14 Use short words, short sentences, and short paragraphs Use good grammar Short is good One page is good Two is not as good Three is worse yet Begin with a 7-9 word headline centered above the story

15 Avoid using acronyms, jargon, or industry-specific terms Write like you're explaining it to someone who wouldn't know or care

16 If your story doesn't show up in print, ONE follow-up phone call to the reporter you sent it to is acceptable Try to find out why the paper didn't use it, and use that informationto improve your next effort

17 When editors cut stories because of space limits, they usually cut from the bottom So put the MOST IMPORTANT information at the top, no preambles, no background statements, just dive in Try to write the first sentence in 17 words or less—and no more than 25 Then explain

If your release runs just one page, maybe two, fax it Faxing is cheaper than mail, and a lot faster Faxing also fits journalists' mindset by making what you have to say seem more timely Mail seems slow and "ho-hum " by comparison Most weekly papers now have fax machines

Letters to the Editor

Another way to get your message into the media is to write a letter to the editor Usually, you will want to do this to correct the record in response to something that has already been

published Keep these letters short (about 100-200 words), make sure the facts and the grammar are correct, and address the facts that were stated incorrectly Do not attack the writer You are not trying to start a feud, only to correct the record Look at the letters to the editor section of your newspaper to see how to address a letter to the editor

Conclusion

The most important thing to remember about working with the media is that reporters and editors take their jobs and their role as "public watchdog" as seriously as you take yours The best way to work with them is to get to know the reporter(s) who cover your operation or the editor or your local paper Know their phone numbers and their needs Call them back if/when they call you, even if you believe the story will be negative

You can begin this process when things are calm by offering

them a tour of your plant(s) as a way to introduce yourself and your operation Point out the positive aspects of what you do and your role as a protector of public health and the environment Media people, like the rest of us, are very busy, so they might not take you up on your offer unless they think there's a story in it But give it a try anyway It'll probably do much more good than harm And it could result in a positive story

Planning for a Crisis

Nobody wants to plan for a crisis Nobody wants to spend a lot of time thinking about a crisis because it's uncomfortable, upsetting, and may even suggest sloppy management on our part Nor does anyone want to spend a lot of time planning for something that may never happen

You may never have a crisis You may also be healthy and never get cancer or have a heart attack But almost nobody bets on perfect health to the extent they don't buy health and life insurance coverage And almost nobody nowadays has two cheeseburgers, fries, and a shake for lunch every day, either

Crisis planning is like buying insurance You hope you never need it, but you sure want to have it if you do need it This section will provide some crisis planning tools that will allow construction of a crisis reaction outline with minimum time invested and minimum paperwork

First Things First

The first step in crisis planning is to try to figure out what kinds of things might constitute a crisis for you Here are a few situations that could

1 You have a major process upset Suddenly you find yourself discharging only partially treated wastewater into a well-known and publicly accessible (and visible) stream or river
2 You have a large chlorine or other chemical leak The cloud spreads quickly into the surrounding community
3 A contractor or major subcontractor on a major project (sewer construction/repair, process equipment installation, etc) goes belly up, jeopardizing the project, creating the threat of permit violations and subsequent fines, or simply becoming a major embarrassment to your department and the city administration or your board
4 One of your employees hits and kills (or injures) a child while driving a truck belonging to your organization and while on duty On examination by police, your employee tests positive for drugs and alcohol
5 A truck belonging to your organization turns over on the way to a biosolidsapplication site, spilling the contents of the truck into a runoff ditch that runs into a nearby stream
6 A contractor working for your organization punctures a gas line with a backhoe The resulting explosion closes a major nearby road and kills or injures one or more passing motorists
7 A recently discharged employee returns to the plant, shoots and kills his former supervisor, and wounds two former coworkers

8 New regulations make it imperative that your plant buy new equipment immediately The cost of the new equipment is so large it will cause your ratepayers' sewer bills to rise by 40 percent next year and remain at the new, higher level for five years

9 You decide to dispose of your biosolids by spraying them on a field near the plant The city owns the property, but a subdivision of high-priced homes is located just downhill from your application site The neighbors in the pricey subdivision complain

10 A major fire breaks out upstream from and adjacent to the town's water supply The fire won't die Pretty soon, runoff from the water being used to fight the fire gets into the water supply, causing a bad taste Residents complain to the media that they are worried

11 A service station has a slow leak in an underground storage tank Enough gasoline infiltrates into your sewer system to cause an explosion that destroys the streets for three city blocks, injuries, and major property damage on both sides of the streets

The situations listed above are not the only things that can cause a crisis, but they suggest several types of precipitating events Some crisis-causing events are disaster situations Other crises will often have some signs of build-up and forewarning

Crisis Triggers

The situations listed above should not be considered all inclusive Rather, they were provided to help stimulate your thinking On a few sheets of blank paper, list the following

- The event/disaster you fear most,
- The event/disaster you believe most likely to happen,
- The worst mechanical/process failure you can think of,
- The worst event/disaster an employee could cause (accidentally or on purpose),
- The worst event/disaster a non-employee could cause (accidentally or on purpose)

These and the events listed previously are the types of things that could place your operations in a crisis mode

The Plan

The Chinese symbol for crisis is a combination of the symbols for opportunity and danger An essential part of dealing with crisis is to recognize ahead of time that it can happen to you Having recognized this, and having created at least a minimal plan before the biosolids hit the fan, you can deal with a crisis if - or when - it happens to your organization

The first thing to do, if you are dealing with a crisis caused by a plant accident or other disaster that requires an immediate reaction to

deal with a problem that has public health or safety implications, is to solve the problem A competent response to the problem will provide you ammunition for dealing with the media and area citizens

A response that looks first to concerns or potential concerns for human life and safety is most important, property is secondary to human life After dealing with human health and safety concerns, property concerns and distruptions to plant and/or community life come next Protecting public property that will, if preserved in working order, protect public health and safety, is very important So is protecting private property

How do you determine whether to activate your crisis plan, especially the communications portion of it? This is a difficult question, and should be answered by the person designated to head your crisis team If you have a question, however, and the designated crisis team leader is not available, here is a rule of thumb that is reasonable Activate the crisis plan if there is a threat to human health or safety, and if it appears likely that actions required to correct the situation cannot be contained on the plant site, will be noticed by those off the plant site, or will cause disruptions to public routines If there is a question, activate the plan After recognizing that it can happen to you, do the following

1 Designate a media spokesperson now to deal with the media during the whole period of the crisis Designate a back-up person as well These should be people who are not likely to be needed to work the technical side of the crisis and who are calm under pressure

2 Delegate authority to deal with the media to the media spokesperson and to his/her back-up in writing Make sure everyone knows who the media spokespersons are, that everyone knows that the media spokesperson or the designated back-up are the only ones who should provide information to the media unless they request assistance from technically knowledgable personnel, and that everyone knows how to get in touch with them at all times If the city/town has a Public Information Officer, make sure plant personnel know how to notify the town's PIO and to do so at the first sign of trouble, and work out the handoff' from your designated spokesperson to the PIO Don't let your spokesperson be the fire or police chief They aren't concerned with or knowledgable about your organization except as necessary to deal with the situation at hand

3 Send key media a post card or letter with the name and phone number(s) of the designated media spokesperson(s)

4 Designate one spot on the plant site (an office or, preferably, a conference room) and one off the plant site where media can gather while waiting for the media spokesperson to take them to the site or the news event

5 Make sure the senior person who is solving the technical side of the problem (thecrisis team leader) keeps the media spokesperson informed of the situation, and particularly lets the spokesperson when it is safe for media to view the site (if it's a disaster) Both these people may need cellular phones of hand-held radios

6 Set forth in writing that names of dead or injured personnel will not be given out to media until their next of kin have been notified (in person, if at all possible) Designate someone (and a backup) to notify next of kin in person

7 Develop and keep up to date an emergency notification list consisting of media phone and fax numbers as well as the phone numbers of key community/organization leaders (mayor, city manager, city PIO, etc) for use by the media spokesperson and others designated ahead of time to keep community leaders informed Make sure all information about the crisis is released by the designated spokespersons

8 Keep track of all requests for information Note who called (get spellings of names), what media organization they work for, the phone number, when the question(s) was asked, what the question was, who responded, and what the response was Generally speaking, respond to media questions in the order in which they were asked unless they are on deadline If the media are on deadline, try to respond to those on the most immediate deadline first A missed deadline is a missed opportunity to get your side of the story into the media report

9 Release only what you know Do not speculate You have no obligation to guess at things such as whose fault it was, how much damage occurred, the dollar value of the damage, whether or not anyone might have been careless or negligent, or anything else Nor do you have an obligation to give out the names of people killed/injured until after their next of kin have been notified If the event that precipitated the crisis was a disaster that kills or injures people outside the plant, you should, as spokesperson, make sure that one of the first statements you make expresses sorrow over the deaths/injuries Show that you're human Promise to find out the cause and take steps to prevent anything like it from happening again - and do it Do not admit guilt or fault, however

10 There will usually be some kind of official investigation Plan for it Defer questions about whose fault it was until the investigation has been completed Then release the results of the investigation to all media at once - even if the investigation shows someone made a mistake Assuming you have taken steps to make sure this type thing won't happen again (revised procedures, changed equipment, etc), say so Also, remember to include the positive side of your story, things like how the problem was discovered, the nature of the response (if positive), how loss of life/damage to property were averted by quick-thinking plant personnel, etc You will often have heroes Make them known

11 Outline a plan for telling employees what happened and when/ where to report to work Predesignate someone to do this Keep an up-to-date list of employee addresses and phone numbers offsite somewhere Make sure employees know that only the designated spokesperson is to speak to media and members of the community Keep the employee emergency notification list confidential - but make sure a primary and an alternate know where it is and how to get to it

12 Designate someone to make a file of all releases and to get copies of all stories printed or aired by media Scan all media that request information to see how your responsewas treated Radio stories may be hard to get copies of, but many people have boom boxes' with built-in tape recorders and can tape newscasts Also, many people now have VCRs at home and can help you get copies of TV stories If TV reporters show up, ask employees to videotape TV news shows on those stations (three or four people should be enough, unless the story goes national) Buy three or four videotapes and preposition them with key employees, preassign which station(s) they should tape

13 Debrief the crisis when it is over or has been resolved Determine what worked and what didn't work about the crisis communication plan Make changes in the written plan

14 Practice the plan once a year Use the practice sessions to find out where the holes are

15 Prearrange to get help from another plant or city agency, if possible, in case things get really enormous

Public Education Award

WEF's Program

Public education and the public's role in protecting water resources is a relatively new concept In order to encourage public education activity and give some well deserved recognition, the Water Environment Federation (WEF) created a Public Education Award in 1990 The award recognizes Federation members for significant accomplishments in promoting public awareness and understanding of water quality issues

Recognition and promotion of your successful public education program can go a long way in sustaining it Budget accomodation and grant funding are more likely if your program is recognized Expansion plans may be entertained In addition, you will have the opportunity to share and spread your success with other Federation members

Award Criteria:

1 Documented achievements of an individual or organization who professionally operates in the water quality field

2 Performed educational efforts above and beyond the public's duty and seen to the public's education on water environment issues

3 The program must have been implemented within the two years immediately prior to nomination

4 Nominees must be members of the Water Environment Federation

5 Entries must include
- A detailed narrative description of the program, including the objective and results
- Six copies of appropriate program materials
- Documented evidence of program success

6 In the event that any nominations do not clearly fit into one or the other category describing public education endeavors, the decision as to the proper category will be made by the respective subcommittee chairs upon consultation with each other and with the Awards Committee Chair

Nominations

Nominations are accepted from individuals, groups of individuals, agency members, and Member Associations Six copies of nominations materials should reach the office of the WEF Executive Director by April 1

Past Winners

'91 Linda Kelly - For leading the development of a creative approach to public education involving both children and adults in the upper Tualatin River Basin in Oregon

'92 Christine Harris - For her success in bringing the City of Los Angeles and the public together to discuss public education issues in a positive manner

'93 Susan Seacrest (Individual Category) - For her dedicated and energetic efforts and accomplishments in educating citizens on water quality issues and groundwater resources

'93 Severn Trent Water (Group Category) - For their efforts to foster an understanding of their belief that water is a precious resource and fundamental to a healthy environment

'93 Illinois Water Environment Association (MA Category) - For their "Ten Day Water Environment Curriculum" program designed for grades 5-10 to provide a comprehensive curriculum on the water cycle, wastewater treatment, and the relevance of the water environment

'94 Robert Williams of Southern Illinois University, Edwardsville, IL, for his work on the Three Rivers Curriculum Project (individual category)

'94 Milwaukee Metropolitan Sewerage District for the Deep Tunnel Project Public Education Campaign to foster an appreciation of the environmental benefits achieved by eliminating raw sewage overflows into area waterways (group category)

'94 Wisconsin Section of Central States WEA for development and implementation of a wide-ranging public education program for primary and secondary schools, the public and wastewater professionals (MA category)

Appendix A

WATER ENVIRONMENT OF ONTARIO

PUBLIC EDUCATION COMMITTEE

MISSION STATEMENT, GOALS AND OBJECTIVES

MISSION STATEMENT.

To educate the public about the water environment and to promote public awareness of current and new measures to preserve and enhance water quality.

GOALS AND OBJECTIVES

1 To work in cooperation with the WEF Public Education Committee to adapt available public education materials to reflect a Canadian water quality perspective.

2 To network with other Canadian member associations and other agencies to ensure that the information distributed by the WEAO reflects a Canadian water quality perspective

3 To work with other member associations in Canada (Atlantic Canada WPCA, AOTE, Western Canada PCA, British Columbia PCA) to distribute the Canadianized water quality public education information Canada-wide.

4 To develop a number of standardized information packages targeted to a variety of interested groups (schools, community groups, the media, etc) based on the Canadianized public education materials.

5. To promote the availability of these resources through contact with school boards, community organizations, the media and other interested organizations.

6. To establish a roster of speakers who would be available to present an unbiased perspective on water quality issues in Ontario and the role of the water quality professional in protecting and enhancing water quality

7 To develop, with assistance from the WEF Public Education Committee, a series of slide presentations aimed at a range of target audiences (elementary school students, high school students, community groups, the media, etc.) which provide an unbiased perspective on water quality issues and the role of the water quality professional in protecting and enhancing water quality

Appendix B

STRATEGIC PLAN FOR THE PUBLIC EDUCATION COMMITTEE

WATER ENVIRONMENT FEDERATION

Approved March 1992

"The Mission of the Public Education Committee is to develop, provide, and promote resources and strategies for communicating water quality preservation and enhancement"

Appendix

PROLOGUE

The following plan is a result of the collective efforts of the Public Education Committee members during 1991 It represents both our optimism for the future, as well as concerns, to effectively carry out our work of educating the public on the numerous and often complex facts of water quality protection

I want to express my utmost appreciation to the Committee and Federation staff for their support in this achievement

Linda Hanifin Bonner
Chairperson

WEF Public Education Committee
March 1992

Appendix

EXECUTIVE SUMMARY

The Public Education Committee (PEC) of the Water Environment Federation began examining its existing and ongoing work efforts in the spring of 1991 The initial purpose of this endeavor was to begin the process of determining Committee work priorities for 1992 and 1993 However, during this process, committee members raised questions about the mission and objectives currently in place for public education, as well as its vision of accomplishments for the future

In addition, the Committee found that there were other factors to take into consideration in planning its existing and future work These factors include

- requests for new and different products by other WEF committees and non-profit organizations,
- competition for limited WEF resources for the production of materials by other organizations, and
- determination of how to most effectively use the available resources of existing and new committee members in public education endeavors

Given the existence of these factors, coupled with the internal issue of the availability and budgeting of resources, it became obvious that there needed to be an effort other than the regular executive committee planning session that would effectively address these issues and identify future work priorities

The core PEC group believed that effective identification of future public education materials requires a process to examine previous and ongoing endeavors The ability to set in place a three year work plan is highly important, as it establishes the basis for continuing to carry out the Federation's mission going into the 21st century Once the decision was made to pursue such an endeavor, this work effort became the committee's highest 1991 priority Assessing these issues was scheduled to be completed prior to the Committee's October meeting A draft plan would then be presented for discussion and action

Appendix

The results concluded that there are three major areas which need to be addressed by the Federation These areas include

1) The need to produce a clear understanding of PE functions and its coordination procedures with other Federation committees,

2) Developing an action plan and schedule to carry out public education work, and

3) The need to garner resources, both financial and networking that enables the PEC to leverage opportunities for future endeavors

Recommendations

1 Define public education objectives to provide a stronger relationship to the Federation's own mission statement -- perhaps even to the point of the PEC having its own mission statement The Committee charge, written in 1957, clearly needs to be updated by the Federation

2 Include the Public Education Committee program objectives into the Federation's long-range plan These objectives need benchmarks or milestones to measure accomplishments, and must be communicated more clearly to the Federation committee chairs and respective members

3 Clearly define the respective roles and missions of the Public Education and Education committees to Federation members leaders to address the existing confusion

4 Explicitly identify customers for public education products, such as public officials, community groups, environmental organizations, and members, and develop a program plan targeting needs with specific groups and materials In addition, all program plans must be accompanied by a marketing and distribution plan

5 Coordinate with the Government Affairs Committee and approach to provide critical education information on the need to protect both water quality and water resources through the refinancing of the necessary infrastructure systems

Appendix

6 Developing public understanding of, and support for, legislation to protect and maintain water quality and resources is viewed as an important priority, but is not as critical at this time as developing an understanding of needed infrastructure financing The PEC should pursue the latter goal, while supporting the Government Affairs Committee in its work on this issue

7 While the hazardous wastes brochure has proven to be extremely valuable, this topic area is a priority item for additional work Federation members, in particular, need a full education and clarification on what constitutes toxic and hazardous chemicals (as does the utility customer)

Appendix

FUTURE DIRECTIONS

On October 6, 1991, the PEC conducted a strategic planning session In focusing on the issues identified in the assessments, participants examined more closely the Public Education Committee's overall role within the Federation and produced the following new vision and mission statements, objectives, and recommendations The Plan was formally approved at the Committee's March 1992 Spring Meeting

Vision Statement

The Public Education Committee's vision for the Water Environment Federation is to educate the public about the water environment, and to make that public accepting of current and new measures to preserve and enhance water quality and resources

Mission

The mission of the Public Education Committee is to develop, provide, and promote resources and strategies for communicating water quality preservation, enhancement, and advancements

Goals

- Develop public education materials and provide distribution strategies

- Provide leadership in promoting the value of protecting water quality

- Motivate and assist the Membership Associations in developing and implementing public education programs

- Provide input to the Federation's marketing of public education materials

- Evaluate the effectiveness of committee programs, objectives, and materials

Appendix

The Federation and its members are strong resources to the Committee in pursuing these activities and consequently in developing its future direction The following objectives and actions have been defined to carry out the Committee's designated goals Action plan priorities for 1992 and 1993 are provided in the next section

GOAL #1 *Develop public education materials and provide effective distribution strategies*

OBJECTIVE

Identify target audiences and methods of communicating specific public education needs using media resources – e g , TV, radio, PSAs, magazines, slides, videos, person to person, conferences, workshops, training sessions, and speakers

ACTIONS

- Identify and prioritized target audiences for public education needs for the next five years, e g , schools, public officials, WWTP operators, MA leaders

- Establish a distribution strategy and plan for each product to target audiences, based on communication needs

- Discuss with the Government Affairs and Water Use Committees educational efforts to facilitate their work programs to public officials

Appendix

GOAL #2 *Provide leadership in promoting the value of protecting water quality*

OBJECTIVE

Strengthen the PEC's working role in the Federation with clear
information about its vision, mission, and subcommittee responsibilities

ACTIONS

- Produce a document describing all Committee programs, objectives, and materials (existing and forthcoming)

- Determine roles and responsibilities of subcommittees, public education brochures, WE newsletter, and PE award

- Establish a three year action plan and budget

OBJECTIVE

Provide leadership and support in implementing the work of the "BIOSOLIDS" Task Force

ACTIONS

- Revise the existing "sludge" brochure for availability at the 1992 Residuals Management Conference

- Use the existing WE newsletter to promote Federation work to non-technical audiences, as a communication vehicle to educate groups about "BIOSOLIDS "

- Initiate production of a video targeted to public officials on the beneficial use of "BIOSOLIDS "

- Organize subcommittees to support BIOSOLIDS task force plan

Appendix

- Produce a poster for schools, public buildings around the year of clean water, and the results of biosolids endeavors in cleaning up the waterways

Appendix

GOAL #3 *Motivate and assist the Membership Associations in developing and implementing public education programs*

OBJECTIVE

Develop 1992 water quality promotional materials and provide publicity support for the Member Associations

ACTIONS

- Produce a standard public relations/media package promoting water quality and the Federation materials in 1992

- Prepare and distribute a Public Education Committee handbook describing a "model" PEC program, and presentation package on how to communicate with local officials and targeted audiences

- Begin developing programs geared for specific events and distribute to MAs, e g Year of Clean Water

- Evaluate and potentially expand bill stuffer program

GOAL #4 *Provide input to the Federation's marketing of public education materials*

OBJECTIVE

Evaluate the effectiveness of committee programs, objectives, and materials

ACTION

- Establish an annual review process of public education products

- Assess current distribution networks, the success of the public education materials and their use to targeted audiences and set annual strategic goals

- Meet with the Federations staff to coordinate efforts

- Evaluate and potentially expand bill stuffer program

Appendix C

NEIWPCC / NEWEA

SPEAKERS BUREAU ✍ Sign-Up Sheet

The **New England Water Environment Association** (NEWEA) and the **New England Interstate Water Pollution Control Commission** (NEIWPCC) maintains a Speakers Bureau comprised of professionals in the water quality field who are available to provide voluntary presentations in their area schools and/or municipalities These presentations will typically take one to two hours of your time and will help educate our nation's youth on issues related to water quality, environmental issues and career opportunities NEIWPCC has numerous materials available for loan to assist the participants in the Speakers Bureau to develop their presentations Your interest in this program is appreciated Upon receipt of this information, a representative from NEIWPCC/NEWEA will contact you with additional information

☛ SPEAKER INFORMATION

NAME _____

TITLE _____

ORGANIZATION _____

ADDRESS _____

_____

PHONE _____ FAX _____

NEWEA MEMBER? _____ STATE ASSOCIATION MEMBER? _____

MEMBERSHIP NUMBER _____

☛ SPEAKER INTEREST

Indicate the school grade level(s) you would like to address and the topic(s) you wish to speak about

School Grade Level

K - 6 _____

7 - 9 _____

10 - 12 _____

College _____

Topics

— Water Quality — Wastewater — Sludge/Septage

— Water Conservation — Watersheds — Non-Point Source

— Lakes — Environmental Careers — Other

— Wetlands — Drinking Water _____

Community Level

YES, I am interested in providing presentations to community groups _____

☛ GEOGRAPHIC INFORMATION

Please indicate the geographic area in which you would be available to give presentations

_____

_____

_____

NEIWPCC / NEWEA, 85 Merrimac Street, Boston, Massachusetts 02114 Tel (617) 367-8522

Appendix

NEIWPCC

NEW ENGLAND INTERSTATE
WATER POLLUTION
CONTROL COMMISSION

85 Merrimac Street
Boston, MA 02114-4715
(617) 367-8522
Fax (617) 367 2127

February 24, 1993

Dear Educator

In the years before we realized the limitations of our natural resources, we freely polluted our waters, soils and air Although clean-up efforts, combined with stricter regulations, are slowly correcting the results of our past actions, we need to ensure the long-term protection of our environment through greater public awareness

As a teacher, you have the opportunity to educate the future caretakers of the environment To help you, the New England Interstate Water Pollution Control Commission (NEIWPCC) and the New England Water Environment Association (NEWEA) have developed a Speakers Bureau that we hope you will consider as a classroom resource

The Speakers Bureau consists of local, state and federal employees, environmental and engineering consultants, technical operators and educators who are interested in sharing their knowledge of environmental issues Depending on the focus of your curriculum, the Speakers Bureau can provide expertise in a number of areas, including water quality, water and wastewater treatment, wetlands, hazardous wastes, resource conservation, federal and state regulatory requirements even information on career opportunities in the environmental fields Because presentations are tailored to each particular age group, we feel comfortable instructing students from kindergarten through college

If you are interested in learning more about the Speakers Bureau, please fill out the attached form and return it to me at the above address We look forward to working with you and your students to achieve a better environment for future generations

Sincerely,

Susan J Sullivan
Environmental Analyst, NEIWPCC
Chair, NEWEA Public Education Committee

Appendix D

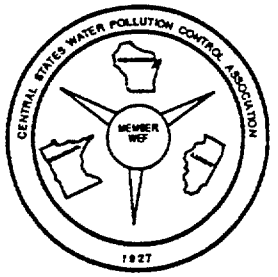
FACILITIES THAT OFFER PLANT TOURS

	AUTHORITY	COUNTY	CONTACT PERSON	PHONE NUMBERS
NORTH SECTION	Bergen County UA - S,R	Bergen	Larry McClure	(201) 641-2552
	Cinnaminson SA - S	Burlington	Dorothy Graham	(609) 829-5287
	Florham Park SA - S	Morris	Peter Maniscalco	(201) 377-1330
	Hackettstown MUA - S,W	Warren	Bruce Smith	(908) 852-3622
	Hanover SA - S	Morris	Michael L Fisher	(201) 428-2477
	Musconetcong SA - S	Morris	Robert Grodeska	(201) 347-1525
	N W Bergen County UA - S	Bergen	Emil Porfido	(201) 447-2660
	Parsippany-Troy Hills Sewer Utility - S	Morris	George Rynkiewicz	(201) 428-7593
	Passaic Valley S C - S	Passaic	Carmine Perrapato	(201) 344-1800
	Pequannok, Lincoln Park & Fairfield SA - S	Morris	Robert Bongiovanni	(201) 696-4494
	Rockaway Valley SA - S	Morris	Louis Ruisi	(201) 263-8319
	Sussex County MUA - S	Sussex	Peter Cerenzio	(201) 827-8880
	Wanaque Valley RSA - S	Passaic	William Gramlich	(201) 831-6658
CENTRAL SECTION	Bayshore Regional SA - S	Monmouth	Gary Marshall	(908) 739-1095
	Bernards TWP SA - S	Somerset	Allen Fornwald	(908) 204-3060

LEGEND

W - Water
S - Sewage
R - Refuse

Appendix E



The Wisconsin Section
Central States Water Pollution
Control Association, Inc

Dear Educator

The enclosed curriculum package and videotape have been made available to you compliments of the Wisconsin Section of the Water Environment Federation The package consists of a video, a teacher's guide booklet, and a student guide booklet In all, there are four such packages relating to water environment topics

- The Groundwater Adventure The puzzling concept of groundwater is explained using a video game format
- Saving Water—The Conservation Unit Through computer graphics, students travel to the future to see what life would be like without clean water
- Wastewater Treatment—H_2O TV The complete wastewater treatment process is explored using a combination of live-action film and the character Dino Sorrus
- Surface Water Unit Students report on the state of today's surface water and share ideas on how they can reduce and prevent water pollution

All four curriculum packages are available for loan through your CESA library If your school would like to obtain its own copies of the packages, contact the wastewater utility in your community and inquire about the Adopt-a-School program Utilities are encouraged to purchase the packages, at a cost of $49 each, to give to schools in their service area

The members of the Water Environment Federation are people with careers dedicated to protecting and enhancing the water environment Our members include wastewater plant operators, scientists, engineers, and others You are invited to contact your local wastewater treatment utility to find out about other ways environmental professionals can help you with environmental education Among the resources and activities we have provided to schools are field trips, exhibits, speakers, printed materials, special projects, and career information Resources vary among communities, but our profession has a widely held enthusiasm for public education

The Wisconsin Section has teamed up with a parallel organization, the Wisconsin Wastewater Works Operators Conference (WWWOC), to promote the partnership with schools Wastewater plants headed by WWWOC members serve nearly 600 communities statewide Your CESA resource center has been provided with the WWWOC municipal plant index, complete with a contact person, address and phone number

A public education committee roster is provided on the back of this page We welcome your questions or comments

CERTIFICATE OF APPRECIATION

In grateful recognition for the enhancing of
water quality education through the "Adopt A School" Program

_____

Is hereby acknowledged as the dedicated
Water Quality Expert to

_____

Federation • Water • Environment •

_____ _____

President Executive Director

Date _____

Appendix F

Appendix G

SUGGESTED

NSTA Introductory Remarks

An ancient Chinese proverb about planning says, "If you plan for a year,

plant rice

If you plan for ten years,

plant trees

If you plan for 100 years,

educate your children "

The Water Environment Federation is an international not-for-profit technical and educational services organization representing over 40,000 water quality experts Our mission is to preserve and enhance the global water environment The challenges we face in meeting that goal demand a long term plan We recognize the important role you, as educators, will play in fulfilling that mission

You see, it wasn't always as difficult Back in 1928, when the Federation was founded, the demands on water professionals were much simpler In many

parts of the country, all we had to do was keep raw sewage from running down the street A few pipes, a couple of wastewater treatment plants, and we, more or less had a plan for a year - we planted rice

As the population ballooned and industrial activities skyrocketed, we faced another dilemma A successful industrial society creates a lot of waste Up until 1972, when Congress passed the Clean Water Act, most of that waste was being dumped directly into our streams - point source pollution Waterways were not fit for fishing or swimming In response to public outcry, new legislation was developed Federal, state, and local governments were able to effectively regulate, for the most part, municipal and industrial sources of pollution Over the past 20 years we have made substantial progress Many pollutants have been reduced or at least significantly controlled at the source You might say we had a plan for ten years - we planted trees

Now, we face an even bigger challenge Beyond

160

point sources of pollution, we must contend with the growing problem of nonpoint source pollution Nonpoint sources of pollution come from diverse places and are harder to control Some of the main sources are excess farm and lawn nutrients that move through the soil into the groundwater or enter local waters directly through runoff during heavy rains Some other examples include uncontrolled stormwater runoff from construction sites, forestry operations and even emissions into the atmosphere from factories, power plants, and automobiles From farmlands to suburban lawns, people use and abuse the land in ways that cause nonpoint source pollution

Seemingly unrelated aspects of life how we live, farm, produce, consume, and transport - have become basic causes of water pollution Yet the average citizen will tell you that factories are the primary source of water pollution Little does he or she know the drain cleaners, polishes and other household hazardous wastes being dumped down the drain by all

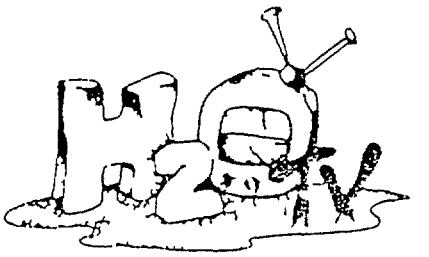
of us represent the primary water quality challenges we face

Nonpoint source pollution is most commonly a result of human activity and we need to change behavior Basic personal choices such as how to get to work, what products to buy, how to landscape our yards, what to do with our wastes, all affect our environment and the quality of water We can't regulate personal behavior, but we can educate It's time for us to implement the plan for 100 years, educate our children That's where your expertise comes in

The Water Environment Federation has no intention of telling you how or what to teach That's your expertise But, we do want to be the source you go to when seeking water quality expertise We want to provide the resources and information you need By doing so we form a partnership, and the plan for 100 years

Appendix H

environment | one
CORPORATION



For Immediate Release
18 September 1992

The SPORT of FLINGS
Returns to Capital District

Schenectady, NY -- Close encounters of the Frisbie kind will be witnessed by curious spectators and players alike, Saturday, September 19th, as twenty-seven frisbie-golf teams battle for top honors at the E/ONE OPEN '92 at the Environment One Corp , Headquarters Course on Balltown Road in Niskayuna

The Capital District's first (and perhaps only) Frisbie-Golf tournament is in its second year and is sponsored in cooperation with the NY-Water Pollution Control Association's Capital District Chapter to create awareness for the Water Environment Federation's, Water Environment Environment Curriculum (H_2O TV) for gratis placement in participating area middle schools

Rich Lyons, Capital District Chapter Chairman, said that "the Water Environment Federation Adopt-A-School program is an important part of educating our youth on the importance of waste H_2O treatment Also with increased awareness we may generate some interest in the future career needs of this industry, which will include operators, engineers and skilled technicians "

The E/ONE OPEN Frisbie-Golf tournament developed enough funding in 1991 to adopt 25 area schools into the program which includes Video Curriculum (H_2O TV) and student-teacher work kits Capital District Chapter Board Member Paul Farrell from Environment One Corp (a manufacturer of waste water collection equipment) is responsible for administering the H_2O TV curriculum to the various schools According to Mr Farrell, the response from the middle schools has been remarkable and at least twenty-five more are on the waiting list to join the free program this year

Shotgun starting times for Saturday's Rain or Shine event are 11 am, 12 30 pm and 2 00 pm with 9 teams in each round

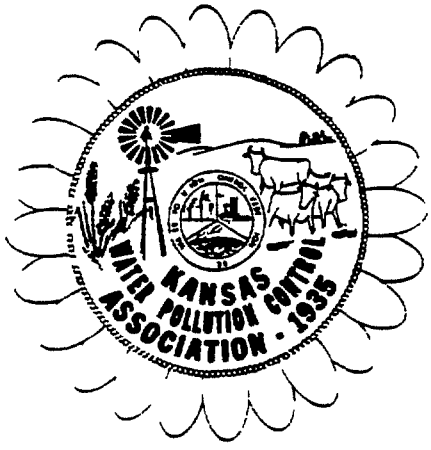
Prizes at the E/ONE OPEN include $500 of groceries from Price Chopper supermarkets, Fantasy weekend for Two in Schenectady from Ramada Inn as well as the coveted Golden Frisbie!

# # #

Media Contact George Vorsheim
518/346-6161

2773 BALLTOWN ROAD • PO BOX 773 • SCHENECTADY NEW YORK 12301
TELEPHONE 518 346-6161 • TELEX 382044 (EONE NY) • FAX 518-346 6188

Appendix I



Kansas Water Pollution Control Association

Environmental Poster Contest for students in grades 4th, 5th & 6th

Purpose

The Kansas Water Pollution Control Association is a professional group of 600 members who are committed toward environmental education. Through this contest, Kansas teachers and students will be recognized for their understanding of and ability to express the importance of environmental practices.

Prizes

Prizes will be awarded to a first and second place student at each grade level. Winners will be selected at the discretion of the judges.

FIRST PRIZE: A $100.00 Savings Bond

SECOND PRIZE: A $50.00 Savings Bond

To Enter:

1. Using any medium, students should design a poster expressing an environmental protection theme on an 8 1/2" x 11" sheet of paper.
2. Complete the enclosed form and mail entries by March 12, 1993 to:

Kansas Water Pollution Control Association
Steven DeHart
R.R. 1, Box 52A
Olsburg, Kansas 66520

3. Entries submitted become the property of the KWPCA and may be utilized for publishing by KWPCA.

Thank you for your support. We appreciate the outstanding work and dedication that you provide for your students.

Form:

School Name: _____

School Phone #: ( ) _____

Teacher's Name: _____

Grade: _____

Student's Full Name: _____

Please have student's name printed on the back of the poster along with their school name and grade.

Please mail all entries in one envelope.

Entries due by March 12, 1993

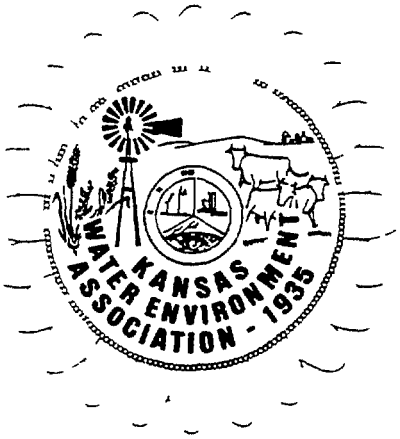
Appendix

Kansas Water Polution Control Association
Judging Criteria
1993 Environmental Poster Contest

Grade Level: _____ Poster # : _____

#	JUDGE'S I.D.	ENVIRONMENTAL MESSAGE	ARTISTIC CREATIVITY
1.		0 1 2 3 4 5	0 1 2 3 4 5
2.		0 1 2 3 4 5	0 1 2 3 4 5
3.		0 1 2 3 4 5	0 1 2 3 4 5
4.		0 1 2 3 4 5	0 1 2 3 4 5
5.		0 1 2 3 4 5	0 1 2 3 4 5
TOTAL POINTS (50pts)			

Appendix



Steven D. DeHart
RR #1
Olsburg, Kansas
66520

Dear (Teacher's name).

Congratulations to (Student's name) for placing (place #) place, in the (grade) grade division during the KWPCA Environmental Poster Contest Enclosed is a permission form for a news release. Please have the parent or legal guardian sign the form & return it to me in the self-addressed stamped envelope.

Within a few days (KWEA Rep.name) representing the KWPCA will contact you to arrange a time to present a certificate, ribbon, and check for (place #) place. (A check is being sent as it will be more convenient for (Student's name)'s parents or guardians to purchase the savings bond than to mail a variety of application forms back and forth. I hope this is acceptable.)

Hopefully, the presentation can be made at a school wide assembly. We would like a photograph to be taken of you, (Student's name) and the KWPCA representative to accompany the news release (KWEA Rep.name) will be responsible for contacting the media and providing the release.

All other entrants will receive a certificate of participation which will be coming soon.

Winning posters and several other selected entries were displayed at the recent KWPCA state convention in Lawrence. The delegates were very impressed with the student's work and teacher's guidance. Several delegates from national organizations were excited about the talented entries. In fact, the national Water Environment Federation has asked to feature examples of the winning entries in their national publication. This is quite an honor.

Thank-you again for your participation. I will appreciate receiving the news release permission form returned to me as soon as possible.

Sincerely,

Steven D. DeHart
President KWPCA

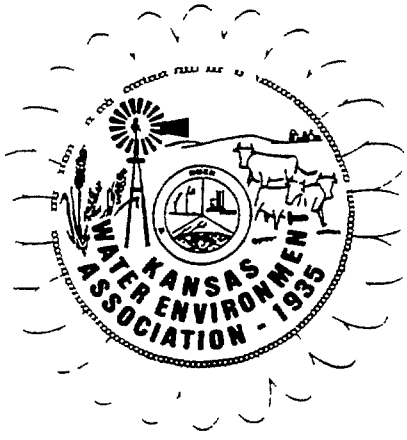
Appendix

As the parent or legal guardian of (Student's name), I do hereby give my permission for his/her poster, which was entered in the KWPCA poster environmental contest, to be used for publication by KWPCA and National periodicals. I also give permission for the organization to photograph my child with the poster, their teacher, and a KWPCA representative for publication in local newspapers.

_____ _____

(parent/guardian) (date)

Appendix



Steven D. DeHart
RR # 1
Olsburg, Kansas
66520

Dear (KWEA Rep.name);

Thank you for volunteering to present the KWPCA (place #) place poster contest winner to (Student's name) with her ribbon and check. Please contact (Student's name)'s teacher, (Teacher's name), at (school) ((telephone)), to arrange a time for the presentation. Hopefully, an all-school assembly can be held.

Enclosed is a news release for the local paper, (perhaps (Teacher's name) can suggest which paper to contact), would you then please contact the newspaper and arrange for a photographer to be present during the award ceremony? A picture should accompany the article. Upon publishing please send me a copy of the news clipping. Thank you again for your efforts, you make the KWPCA, (KWEA), organization work.

Sincerely,

Steven D. DeHart
President KWPCA

Appendix

New's Release for KWPCA environmental poster contest

Recently, the Kansas Water Pollution Control Association sponsored a state-wide environmental poster contest for students in the grades 4, 5, & 6. A total of 745 entries were received and a first and a second place winner was awarded at each grade level. The (place #) place winner at the (grade) grade level is (Student's name), who is a student at (school) in (city). (Student's name) is pictured with her teacher (Teacher's name). Presenting the ($ bond) savings bond is KWPCA representative (KWEA Rep.name) of the (city) (position).

Appendix

Steven DeHart
RR # 1
Olsburg, Ks 66520

Thank you for showing your support by submitting your entries to the 1993, Kansas Water Pollution Control Association, Poster Contest. The entries were shown at the 49th annual K.W.P.C.A. Conference in Lawrence, and the members commented on the amount of time, commitment, and involvement that you as a teaching professional displayed in incorporating environmental studies into your curriculum. Hopefully, the finished posters were beneficial to you also.

We were pleasantly overwhelmed by the number of entries from around the State of Kansas. There were 209 in 4th grade, 229 in 5th grade, and 307 in 6th grade for a total of 745 posters.

1993 KWPCA Environmental Poster Winners

1st place, 4th grade, $100 bond, Northwest Elementary, Dodge City.
2nd place, 4th grade, $ 50 bond, Northwest Elementary, Dodge City.

1st place, 5th grade, $100 bond, Rosalia Elementary , Rosalia
2nd place, 5th grade, $ 50 bond, Garfield , Parsons

1st place, 6th grade, $100 bond, Longfellow Middle , Hill City
2nd place, 6th grade, $ 50 bond, Shawnee Heights , Topeka

Enclosed is a complementary booklet with selected environmental experiments that range in difficulty from 3rd to 12th grades.

Sincerely,

Steven D. DeHart

Steven DeHart
President, K.W.P.C.A.

Poster Committee Members

Kathy Windham Johnson County Environmental Dept.	Millie Reed City of Hutchinson Industrial Pre-Treatment	Steven DeHart City of Manhattan Plant Supervisor

TEXAS WATER POLLUTION CONTROL ASSOCIATION

January 30, 1993

Dear Science Fair Judges,

During 1992 our organization experienced a lot of changes both on the Federal and State level. As you know, we have changed the name of our organization and also changed, re-defined, and/or added to the scope of our activities. However, the one thing that has remained constant within our organization is our committment to public education. This has always been, and will continue to be, one of the primary functions of our organization. Our participation in the local science fairs gives us a wonderful opportunity to carry out this committment.

Last year you were gracious enough to serve as the judge for the Water Environment Federation of Texas at the science fair in your area. I would like to offer you the opportunity to serve in this capacity again this year.

If you are unable to participate as a judge this year, **please let me know immediately!** It would be helpful if you could find an alternate and/or suggest someone from your area who could serve in your place

Please take a moment to complete the attached questionnaire and return it to me immediately. **PLEASE DO NOT LET IT GET LOST ON YOUR DESK!**. If you have any questions, please feel free to contact me at (903) 882-2295.

This year there are several major changes to the guidelines for judging and awards distribution. As a result of these changes, I would like to get the packages containing the updated science fair materials to you or your designated alternate as soon as possible. I will send the packages immediately upon receipt of the enclosed questionnaire.

Thank you for your participation and assistance in this matter. I look forward to working with you this year.

Sincerely,

Mary Evans

Mary Evans
WEAT Science Fair Coordinator

Appendix

SCIENCE FAIR JUDGE

PARTICIPATION FORM

NAME: _____

ADDRESS: _____

PHONE: _____

_____ I will be able to serve as Science Fair Judge this year. Please send the material packet.

_____ I will be unable to serve as Science Fair Judge this year. I suggest that you contact the following individual as a possible replacement.

NAME: _____

ADDRESS: _____

CITY AND ZIP: _____

PHONE: _____

Please complete this form as soon as possible and mail or Fax to the address/Fax Number listed below. Thank you for your help.

Mary Evans
Environmental Coordinator
Tyler Pipe Industries, Inc.
P.O. Box 2027
Tyler, Texas 75710-2027

Fax: (903) 882-2465

Appendix

PROCEDURES FOR WEAT REGIONAL SCIENCE FAIR COORDINATORS

1. A list of possible contacts for the science fair in your area is attached. This information, including the date of the fair, must be confirmed with the coordinator of the science fairs in your area. Please do not trust the dates on the attachment or you may miss the fair in your area. It is only provided as a starting point in determining who you should contact.

2. You may solicit as many judges as you believe will be necessary to conduct the judging.

3. WEAT science fair coordinators are asked to try to award First, Second, and Third Place awards if possible. Also, if the fair is a combined Junior/Senior event, the awards should be presented as overall awards for both divisions.

4 Each fair will receive a check from Joe King for $150. We recommend dividing the money to reflect a First, Second, and Third place winner A suggestion would be $75, $50, and $25. We are recommending monetary awards be given in form of checks. Local sections may provide funding to increase the amount of these awards if they so choose. The enclosed receipt must be signed by either the student or an Official Representative of the award program to verify receipt of the award. Please return these forms to the WEAT treasurer listed below.

5 There is no money allotted for framing of certificates

6 Certificates will be issued through Dan Allen, WEAT Secretary. If you wish to give out certificates at the time of the fair, please contact Chris Loven (512) 459-3124 as soon as possible. She will send blank certificates to you. If you choose to have WEAT issue the certificates, please notify Chris of the winners as she will issue pre-printed certificates with the winners names.

7. Complete the local Coordinator's Report forms which are attached and return them to the State Science Fair Coordinator listed below.

8. Projects can be awarded to any project dealing with an Environmental theme

Treasurer:
Joe King
Freese & Nichols
811 Lamar Street
Fort Worth, Texas 76102

State Coordinator:
Mary Evans
Tyler Pipe Industries
P.O Box 2027
Tyler, Texas 75701-2027

Appendix

RECEIPT FOR SCIENCE FAIR MONETARY AWARD

TO: The Water Environment Association of Texas Treasurer

I, _____, have received from _____ a _____ in recognition for my achievement as winner of the science fair at _____.

Sincerely,

Name _____

Date _____

Appendix

WEAT LOCAL COORDINATOR'S REPORT

1. Location of Fair._____

2. Date:_____

3. WEAT Coordinator·_____

   WEAT Judge:_____

   WEAT Judge·_____

4. Number of projects dealing with environmental:_____

5 Title of winning project:_____

6 Description of project _____

_____

_____

7 Winning student's name: _____

address:_____

phone #· _____

8. Name of student's advisor: _____

10 Name and phone number of next year's Fair Director for future reference:_____

11 Comments:_____

_____

_____

Appendix

THE WATER ENVIRONMENT ASSOCIATION OF TEXAS

Proudly presents this FIRST Place award to _____

for outstanding achievement in a project related to an

Environmental issue.

Sincerely,

_____

WEAT Regional Science Fair Judge

PLEASE NOTE: An Original Certificate will be mailed to you within the next few weeks from our State office in Austin. Thank You!

Appendix

Dear Student:

Your project has been chosen to receive a First Place Award from the Water Environment Association of Texas for an outstanding project dealing with an Environmental theme.

As a First place winner, you will have an opportunity to participate in a unique award program that has been initiated this year. For the first time ever, the Water Environment Association of Texas will be holding a drawing for all First Place Regional Science Fair Winners (18 state wide) at our Annual State Conference in June. The winner of this drawing will receive an all expense paid trip for one week to the NASA Space Camp in Alabama or Florida. Notification to the winner will be made by Certified Mail no later than June 30, 1993

Congratulations on a project well done!

Sincerely,

Mary Evans

Mary Evans
Water Environment Association of Texas
State Science Fair Coordinator

Appendix

S[redacted]CE1

TEXAS WATER POLLUTION CONTROL ASSOCIATION
DALLS REGIONAL SCIENCE AND ENGINEERING FAIR
JUDGING WORKSHEET

EXHIBIT NUMBER

	0	1	2	3	4	5	6	7	8	9	10
CONTROL WATER POLLUTION											
POLLUTION ABATEMENT	None Identified						Specific Solution				
RELEVANT	Poor		Some			Very					
CREATIVE ABILITY											
IDEA FOR PROJECT	Assigned by Teacher		Copied from Book			Jointly Developed			Originated by Student		
PROJECT APPROACH	No Approach			Cookbook		Modified Cookbook			Own Approach		Innovative Approach
ANALYSIS & INTERPRETATI	No Analysis		Little Analysis		Analysis & Interpret.		Relation Understood		Solved more Problems		
USE OF MATERIALS	In-appropriate		Some care & Neatness		Meticulous Design						
SCIENTIFIC THOUGHT											
POSING THE PROBLEM	No Problem Evident		Poorly Explained						Well Done		
APPROPRIATE PROBLEM	Trivial		Too Hard To Easy		Difficult & Apprp[riate						
RESULTS FOR CONCLUSION	Unwarranted		Poor Data Conclusion			Some Speculation			Very Good Results		
SKILL											
DIFFICULTY & EXECUTION	Simple Poorly Done				Difficult Fairly Done	Simple Well Done		Difficult Reasonable		Difficult Well Done	
EXHIBIT DISPLAY	Poor Messy			Acceptalbe			Clearly Outstanding				
THOROUGHNESS											
ADEQUATE DATA & TESTS	No Data No Testing		Good Data & Testing		Excellent Thru Out						
SOLVED STATE PROBLEM	No			Solved Other Problem			Yes				
LAB NOTEBOOK	None		Incomplete		Compre-hensive						
CONCLUSION FROM DATA	Wild		Support		Full Support						
CLARITY											
WRITTEN & ORAL	No Report Poor Interview		Disorganized Poor Interview		Organized OK Interview		Well Organized Good Interview				

TOTAL

Appendix

SCIENCE2

WATER ENVIRONMENT FEDERATION OF TEXAS
REGIONAL SCIENCE AND ENGINEERING FAIR
JUDGING WORKSHEET

EXHIBIT NUMBER														
JUDGE NAME														
TOTAL														
AVERAGE														

PUBLIC EDUCATION COMMITTEE

The committee shall develop, recommend, and assist in conducting public education programs designed to improve the public's understanding of water pollution control matters The committee shall develop and maintain liaison on public education matters with other Federation committees that include in their activities improved service and information to the public

Linda Faulkner-Vaughn (chair), NC, '94
James L Condon (vice-chair), NE, '94
Annette M Adams, GA, '94
Robert Adamski, NY, '94
Sharon R Anhalt, MO, 95
J Darrell Bakken, IN, '94
Jose Luis Bueno Zamora, Mexico, '95
John A Buttz, CA, '95
Gregory D Cargill, II, '92
Lynne E Chicoine, OR, '93
Alberto Da Pra Rep of Argentina, '95
Nancy D Edwards, VA, '94
Dan L Fraser, MT, '94
Rhonda Harris, TX, '92
Robert F Holbrook, AL, '91
Jon Jewett, VT, '94
Karen S Klima, DC, '93
Bruce J Kruckel, NY, '93
Pearl D Laufer, MD, '91
Constance Leonard, CA, '94
Peter S Machno, WA, '91
James P Maciariello, OR, '91
John D Quigley, CA, '95
Jean B Robertson, UT, '91
Patricia A Robinson, FL, '94
Michael A Schober, PA, '95
J Edward Schooler, SC, '91
Richard I Sedlak, NY, '94
Cynthia Singleton, AR, '93
Susan J Sullivan, MA, '94
Charles E Thomas, GA, '93
Judith D Troup, FL, '94
John T Walker, TX, '91
Dan Wolz, MI, '92

Environmental Pollution Prevention Project

The Facts On Pollution Prevention

What is pollution prevention?

Pollution prevention is the reduction or elimination of discharges or emissions to the environment This includes all pollution hazardous and non-hazardous, regulated and unregulated, across all media, and from all sources Pollution prevention can be accomplished by reducing the generation of wastes at their source (source reduction) or by using, reusing or reclaiming wastes once they are generated (environmentally sound recycling)

Why practice pollution prevention?

Pollution prevention is good business While most pollution control strategies cost money, pollution prevention has saved many companies thousands of dollars in treatment and disposal costs alone

By reducing or eliminating wastes a firm can

- ☑ reduce waste disposal costs,
- ☑ reduce costs for energy, water, and raw materials,
- ☑ reduce operating costs,
- ☑ protect workers, the public, and the environment, and
- ☑ reduce the risk of spills, accidents, and emergencies
- ☑ improve the image of the company to the public

How do you get started?

A systematic approach will produce better results than piecemeal efforts An essential first step is a comprehensive waste audit The waste audit identifies all opportunities for improved operating procedures, process modifications, process redesign, and recycling

To conduct a waste audit, follow these steps

- ☐ List all generated waste
- ☐ Identify the composition of the waste and the source of each substance
- ☐ Identify options to reduce the generation of these substances in the production or manufacturing process
- ☐ Focus on wastes that are most hazardous and techniques that are most easily implemented
- ☐ Compare the technical and economic feasibility of the options identified
- ☐ Evaluate the results and schedule periodic reviews of the program so it can be adapted to reflect changes in regulations, technology, and economic feasibility

This fact sheet/checklist was adapted by EP3 from information provided by the Center for Hazardous Materials Research, Pittsburgh, Pa , the State of Michigan Departments of Commerce and Natural Resources, Lansing, Mich , and the Minnesota Office of Waste Management, St Paul, Minn

Pollution Prevention Checklist

While opportunities for preventing pollution are limitless, a few tried and true methods are presented here Pick from the categories in this checklist that are most applicable to you and don't feel as if you have to do everything at once Start with one or two key areas of opportunity, such as cardboard recycling or solvent recovery, and move on from there You and your employees will probably have some creative ideas to add Your pollution prevention success is limited only by your imagination!

Tips for this checklist have been divided into the following specific categories

Waste Reduction Tips
Coating and Painting Operations
Water Use and Conservation
Leaks and Spills
Cleaning and Degreasing Operations
On the Production Line
In the Maintenance/Storage Area
In the Cafeteria and Restaurant
General Pollution Prevention Tips

Waste Reduction Tips

❒ Establish a waste reduction hierarchy for your firm Typically, source reduction is the highest priority, followed by reuse Recycling and composting are next best

❒ Establish a waste reduction task force, headed by an enthusiastic "reduction advocate "

❒ Develop waste reduction goals with measurable objectives

❒ Establish a company-wide commitment to making waste reduction a part of doing business

❒ Develop a waste reduction budget Be sure that needed resources will be available

❒ Design a management strategy to reduce waste, prioritize options and develop an implementation schedule

❒ Identify problem wastes and evaluate their reduction potential

❒ Identify when and where waste is generated

❒ Identify waste characteristics, including quantities of each material and how waste is handled and disposed

❒ Develop employee education programs on reducing waste generation

❒ Train employees in waste reduction techniques

❒ Develop an informal waste exchange with other companies

❒ Reward employees for cost-saving waste reduction ideas

Coating and Painting Operations

❒ Arrange for training of paint operators to minimize unacceptable quality and paint waste

❒ Size paint batches systematically to specific jobs

❒ Use equipment with high transfer efficiency (such as electrostatic applicators)

❒ Automate spray and dip operations where possible

❒ Design filters properly to prolong filter life and minimize waste

❒ Recycle overspray (for example, of powder coatings)

❒ Evaluate the use of different types of paint arrestors such as water curtains and filters, to determine least waste generation

❒ Optimize spray speed, distance, angle, pressure, and other conditions to reduce overspray

❒ Regularly inspect production equipment, such as racks, for cleanliness

❒ Use water-based or high-solids coatings whenever possible

❒ Routinely clean hooks to prevent paint buildup which can interfere with painting operations

Water Use and Conservation

❒ Use high-pressure washing equipment to reduce the amount of wastewater generated

❒ Use a centrifuge or cyclone to remove paint solids from water arrestor holding tanks to reduce the need for water replacement

❒ Install flow-control valves

❒ Measure water inflow and outflow rates from each unit process to control water usage

❒ Reuse clean or contaminated water where possible

❒ Segregate plating wastestreams to allow metal recovery, to reduce treatment, chemical purchase costs, and sludge handling costs

❒ Use countercurrent rinsing techniques

❒ Install drainboards and dragout tanks to recover dragout losses

❒ Hold racks over plating tanks for sufficient time to minimize dragout

❒ Use air knives or fog nozzles to reduce volume of dragout losses

❒ Equip rinse tanks with flow control valves

❒ Agitate rinse baths (bubbling air or mechanical stirring) to reduce water consumption

❒ Use timers and foot pedals to control water usage

❒ Use metal recovery technologies (that is, ion exchange, reverse osmosis, electrolysis) or evaporators to facilitate recycling and reuse of rinse waters

❒ Use a centrifuge or filter press to dewater sludge and reduce disposal costs

Leaks and Spills

- ❒ Capture and reclaim spilled or leaked materials
- ❒ Routinely inspect and maintain valves, pipe joints, pumps, tanks, etc to prevent waste generation from leaks and spills
- ❒ Use seal-less pumps
- ❒ Use oil-absorbent pads to reclaim both the pads and used oil (instead of using granulated absorbent)
- ❒ Install spill basins or dikes in storage areas
- ❒ Install splash guards and drip boards on tanks and faucets
- ❒ Install overflow control devices on process and storage tanks
- ❒ Maximize use of welded pipe joints

Cleaning and Degreasing

- ❒ Use poly-pigs or other cleaning devices rather than chemicals to clean transfer lines
- ❒ Use dry and non-solvent cleaning procedures when feasible
- ❒ Schedule production of the lightest color batch first so that cleaning rinses can be used for subsequent batches
- ❒ Use counter-current cleaning methods where possible (i e using dirty water/solvent for initial cleaning and clean water/solvent for final cleaning)
- ❒ Dedicate process equipment to a single product where feasible to reduce the number of cleanups
- ❒ Recover spent solvent
- ❒ Cover cleaning tanks with an impervious material to prevent vapor loss
- ❒ Centralize and consolidate cold cleaning operations to minimize vapor losses
- ❒ Extend life of cleaners through filtration and replenishment
- ❒ Increase drain times for parts before and after washing to reduce dragout
- ❒ Remove sludge from cleaning tanks regularly
- ❒ Designate responsibility for coolant maintenance and replacement
- ❒ Use coolants that have a long life

On the Production Line

- ❒ Substitute non-hazardous ingredients for hazardous materials where possible
- ❒ Mix only the volume of material required to fill an order
- ❒ Recover oils, solvents and other cleaning materials
- ❒ Perform regular maintenance to prevent leaks and prolong equipment life

❒ Evaluate process performance to help determine efficiency, adjust as necessary to be certain waste and off-specification products are kept to a minimum

❒ Purchase more efficient equipment, train and motivate employees, and install quality monitoring systems to reduce production line rejects

❒ Separate recyclable materials from waste

❒ Implement a collection system for recoverable materials

❒ Educate employees about source separation, encourage employee suggestions

❒ Modify production equipment to reduce production scrap

❒ Recycle production scrap

❒ Modify or add equipment to recycle scrap on-site

❒ Evaluate pay-back of recycling programs in terms of reduced input costs and reduced disposal costs

❒ Organize the flow of the production line to minimize handling of materials

In the Maintenance/Storage Area

❒ Segregate recyclable materials

❒ Recycle cardboard, plastic, paper, glass, motor oil, metals and other materials

❒ Identify storage needs for recyclables

❒ Designate storage space for recyclables

❒ Use reusable containers that are collapsible "nestable" (fit inside each other) or stackable for efficient storage and shipping

❒ Use compactors or balers to reduce volume of recyclable materials This serves to conserve storage space, reduce transportation costs and increase marketability

❒ Recycle cardboard and plastic, find a broker or consult your waste hauler for potential collection service

❒ Compact or bale cardboard or plastic if your quantities are large

❒ Share compactors and balers with neighboring businesses if your recyclable quantities are small

❒ Buy some items in bulk where this reduces waste

❒ Reuse and recycle pallets

❒ Ask suppliers to provide packing materials that are recyclable, reusable or returnable

In the Cafeteria and Restaurant

❒ Evaluate waste for recycling or composting potential

❒ Recycle corrugated cardboard, glass, metals and plastic

❒ Replace disposable items (cups, utensils, dishes and single-serving condiment containers) with reusable items

❒ Buy in bulk to reduce container waste, but avoid buying too much of a product that might spoil

❒ Donate extra food to feed the hungry and homeless

❒ Encourage employees to bring their own containers or mugs to the company cafeteria

❒ Ask suppliers to provide products packaged in recyclable materials such as paper, glass, tin or aluminum

❒ Compost kitchen scraps

❒ Send grease to a renderer

Personal Pollution Prevention Plan

❒ Shop environmentally

❒ Buy refillable bottles of milk, soft drinks, beer and other beverages

❒ Look for products with minimal packaging Ask clerks not to bag small purchases

❒ Bring your own cloth or paper bag when shopping Reuse plastic bags when buying produce or bulk items

❒ Purchase reusable storage containers instead of single-use plastic bags

❒ Buy items in bulk to avoid extra packaging and expense Products available include nails, screws, bolts, cereals, pasta, spices, candy and dried fruit

❒ Avoid individually wrapped items Buy economy-sized packages of products you use a lot

❒ Products bought on impulse may be unneeded and may add to your household waste Make a shopping list of items you really need

❒ Use long-useful-life products Long-useful-life products create less waste and save you money in the long run Buy well-made products that are easy to repair and have long warranties

❒ Buy cloth napkins and refillable razors

❒ Use silverware and heavy-duty, reusable plastic plates and glasses for parties and picnics

❒ Use cloth diapers Even a diaper service usually costs less than disposable diapers

❒ High-mileage tires cost less per mile traveled Buy 50,000-mile tires and keep them filled to the proper air pressure for maximum wear

❒ Buy compact fluorescent bulbs instead of incandescent ones

❒ Regular cleaning, maintenance, and repair can lengthen the lives of tools, appliances, vehicles, shoes and clothing

❒ Borrow or rent items that are used only occasionally such as power and hand tools, landscaping equipment, audiovisual equipment, office furniture, medical equipment, and baby furniture

❒ Use glass jars for storing foods, screws and nails and sewing supplies

❒ Make a "waste-source-reduction kit" of twist ties, paper bags and plastic bags Take this kit along when you go shopping

❒ Save plastic tubs from prepared foods to use as a freezer storage containers and for storing leftovers

❒ Use plastic jugs from windshield-washer fluid to collect used oil for recycling

❒ Reuse scrap paper that's printed on one side Use the blank side for phone messages or notes

❒ After you've read a magazine, give it to someone else to read, such as friends, nursing homes, hospitals, schools, doctors' waiting rooms, or the library

❒ Donate unwanted household items, clothes, and appliances that are still usable to charitable organizations You can also sell them through classified ads, community bulletin boards, consignment shops, or garage sales Items with low prices sell faster

❒ If the store at which you shop doesn't offer returnable containers or products without needless packaging, ask for them If the items are not provided, tell the store manager you intend to shop somewhere that does offer these items, and do it

❒ Set an example for your family, especially your children Remember, preventing pollution by practicing these recommendations not only protects environmental resources, it saves you money

The Environmental Pollution Prevention Project is a global program focused on creating and supporting locally sustainable pollution prevention efforts in developing countries EP3 is a project of the U S Agency for International Development in cooperation with the U S Environmental Protection Agency and the Water Environment Federation

For more information on EP3 and pollution prevention, contact

EP3 Headquarters
1530 Wilson Boulevard
Suite 900
Arlington, VA 22209-2406 U S A
Tel +1-703-351-4004
Fax +1-703-351-6166

For additional information on pollution prevention, contact

Center for Hazardous Material Research
320 William Pitt Way
Pittsburgh, PA 15238
U S A
Tel +1-800-334-2467
Fax +1-412-826-5320

State of Michigan
Office of Waste Reduction Services
P O Box 30004
Lansing, MI 48909
U S A
Tel +1-517-335-1178

Minnesota Office of Waste Management
1350 Energy Lane
St Paul, MN 55108
U S A
Tel +1-612-649-5750